

Clark

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1990-92

CLARK UNIVERSITY

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The following listing is intended as an illustration of courses and programs that are typically offered or have been offered recently at Clark. Inclusion in this listing does not constitute a promise or guarantee that the course or program will be available in a particular semester or academic year. Rather, in each semester a wide selection of courses from this catalogue will be offered. From time to time new courses, curricula, or instructors may be added or changed. Please consult the *Class Schedule* and *Addenda to the Class Schedule* published by the Registrar's Office for a listing of the courses and instructors in each term.

Clark University is accredited by the New England Association of Schools and Colleges, which accredits schools and colleges in the six New England states. Membership in the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

It is the policy of Clark University that each individual, regardless of race, color, sex, sexual orientation, religion, national origin, age, or handicap, shall have equal opportunity in education, employment, or services of Clark University. The University encourages minorities, women, Vietnam Veterans, the handicapped, and persons between 40 and 70 years of age to apply.

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About Clark University

For the spirited, independent, inspired learner, Clark University can offer the best of many worlds: combining the advantages of the intimate, liberal arts college and the distinctive, research university; connecting the world of a major New England city with that of a truly international university; prompting students to venture beyond classroom and laboratory into the community, across cultures, and even across the globe. Clark takes pride in its university as a community of shared values, which prizes individual differences, originality, and flexibility. Above all, it is a place where people feel comfortable trying out new ideas.

In fact, the special strength of Clark's undergraduate and graduate programs stems from a fruitful integration of teaching and research. Unlike many other research universities, Clark has resisted the polarization of faculty into groups dedicated either to research or teaching. Instead, the University has sought out and supported faculty members who have the interest and the energy to excel in both areas, and who appreciate the interplay between their own research and their work with students. Here, the same professors who teach introductory and advanced classes, supervise special projects, and advise students about their academic life also continue to build Clark's international reputation as an outstanding research university. By taking special care to cultivate a "university-college" environment, Clark has attracted a faculty that is committed to excellence in teaching and original scholarship. These professors engage their students by sharing the excitement that sparks their scholarship. Beyond that, they introduce students to the rigor and tenacity that a researcher needs in order to follow through on that initial spark or new idea.

The spirit of inquiry that implies taking risks and being a step ahead of the times has always characterized Clark's faculty and students. Perhaps that explains the University's remarkable, century-long record of social and scientific firsts. Founded in 1887, Clark is the oldest graduate institution in New England and the second oldest in the nation. The undergraduate college, which opened in 1902, has been heavily influenced from the start by the academic values and quality of the graduate school.

Clark was established chiefly through the efforts of two individuals: founder Jonas Gilman Clark, the enterprising Worcester-area native and merchant for whom the University is named, and G. Stanley Hall, the prominent psychologist who served as Clark's first president and helped build the University's faculty and reputation. Over the course of its first century, Clark University brought Sigmund Freud to America, supported research that led to development of "the Pill," defined and measured the windchill factor, and served as the academic home of Robert H. Goddard, "Father of the Space Age," and of Albert A. Michelson, the first American to win a Nobel Prize in science.

In the last decade, Clark researchers have conducted internationally recognized research on brain tissue regeneration, developed a nuclear accident emergency plan for the Three Mile Island region, and led environmental training and development programs in the Third World, including in more than ten African nations. In 1987, Clark's Graduate School of Geography held the first major international conference in over thirty years to assess and interpret changes in the earth's biosphere, examining the effect of 300 years of human activity on the earth, water, and air that sustain human life. A Clark physicist was among the first to measure the effect of fallout from the Chernobyl disaster on Europe. The chair of the Psychology Department, an expert on sociocultural influences on human development, has initiated joint U.S.-U.S.S.R. research projects to look at the development of values and ways of thinking in these two different cultures. Two of our humanities professors have taken yet another approach to studying cultural kinships and differences—a structural and cultural analysis of two urban designs: Haussmann's Paris and Olmsted's New York. Besides maintaining an impressive record of research, the University also has extended its influence through professional journals and societies, including the journal *Economic Geography*, and the American Psychological Association, both of which were founded at Clark.

Today, as a private, coeducational, liberal arts university with graduate schools and a College of Professional and Continuing Education, Clark continues to offer stellar intellectual resources. The Robert Hutchings Goddard Library, with a research collection of 500,000 volumes including 60,000 microform volumes; 240,000 monograph titles; and 2,300 periodical titles, is at the academic and physical heart of the University. Clark's newer facilities include fully equipped microcomputer labs; the University Computer Center; and the Arthur M. Sackler Sciences Center, a multimillion-dollar teaching and research complex. A new University Center, scheduled for completion in 1991, promises to become the focus of campus life that will encourage all of our constituencies to come together formally and informally, for intellectual enrichment, recreation, conversation, and celebration. Several campus facilities—some recently remodelled—are used for theater, music, and dance, as well as art exhibitions. The George F. Kneller Athletic Center offers facilities for virtually every sport and has a competition-size swimming pool. Other campus buildings range from modern residence halls to Victorian-era academic and administrative buildings.

Clark features close relationships between students and faculty, exceptionally strong interaction between graduate and undergraduate programs, and unusual opportunities for independent study. Intimate seminar and laboratory settings, student participation in faculty research projects, and a dedicated and inquisitive, intellectual environment encourage Clark students to hold fast to the University's tradition of academic excellence.

The Undergraduate College

Interaction—among fields of study, between faculty and students, and between graduate and undergraduate programs—is a virtue of Clark's university-college environment. The University's hallmark: people and programs that cross academic and cultural boundaries and that blend and integrate the arts, sciences, social sciences, and humanities. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college and its students.

An undergraduate education at Clark has three elements: First, it develops the broad appreciation of the heritages of many cultures, necessary to the liberally educated person; second, it gives students extensive involvement with a specific field of study so that each student can experience the meaning of intellectual mastery and critical thinking in a particular area; and third, it assists students in developing intellectual skills that prepare them for a productive and active life.

The university-college concept integrates graduate and undergraduate education, developing in students intellectual competence, personal maturity, and skills in analysis, communication, and critical thinking. Throughout their undergraduate years, students assume increasing responsibility for their own learning, which often culminates in research projects with senior faculty.

Academic Programs

PROGRAM OF LIBERAL STUDIES

The foundation of a Clark undergraduate education is the Program in Liberal Studies. Through the program students: supplement introductory-level work in their proposed field, become acquainted with skills in critical thinking and knowing that are essential for self-directed learning, are given a framework within which they can select an organized pattern of study, and receive a broad introduction to liberal and lifelong learning. The Program in Liberal Studies has two components:

1. *Critical Thinking*: Every course in the University involves work in critical thinking. However, two types of courses place special emphasis on the cultivation of skills in this area. Each student is required to pass two courses, one from each of these areas:
 - A. *Verbal expression*: Courses, offered in many different disciplines, that place special emphasis on the relationship between writing and critical thinking within that discipline.

- B. *Formal analysis*: Courses, offered in several departments, that place special emphasis on logical and algebraic modes of thinking.
2. *Perspectives*: *Perspectives* courses encourage breadth and introduce students to the different ways in which various disciplines or fields define thinking, learning, and knowing. Students must successfully complete courses in each of the six categories, each course from a different academic department.
- A. *Aesthetic*: *Aesthetic perspective* courses give primary emphasis to artistic expressions of the imagination and to the perception, analysis, and evaluation of form. These courses enhance the appreciation and understanding of the arts.
- B. *Comparative*: *Comparative perspective* courses introduce students to the methodologies and modes of thinking encompassed by the social sciences.
- C. *Historical*: *Historical perspective* courses build the capacity to understand the contemporary world in the larger framework of tradition and history. Courses are broad in scope and holistic rather than thematic in approach, introducing students to methods of historical inquiry, and to the ways historians think critically about the past, present, and future.
- D. *Language/Culture*: *Language and culture perspective* courses encourage students to reflect upon the reciprocal relationships between languages and cultures.
- E. *Natural Scientific*: *Scientific perspective* courses teach the principal methods and results of the systematic study of the natural world. Courses focus on methods of scientific study (observational/experimental experiences of natural phenomena) with a laboratory or demonstration component as an integral part to ensure actual exposure to natural phenomena and experience of the result of scientific study.
- F. *Values*: *Values perspective* courses study the dimension of value in all domains of life and learning, asking the moral question, "What should we do?"

Each perspective is important in the development of a balanced education. A list of the courses in each perspective is available each semester during registration.

THE MAJOR

Sometime during their first two years, students discover one area that is especially intriguing. At that point, a student is ready to replace the pleasure of free-ranging exploration with a more in-depth study of the subject that has caught his or her interest. By declaring a major, the student defines the area in which she or he is prepared to develop a more sophisticated mastery. Students may choose a traditional or interdisciplinary major, or may self-design a major tailored to their particular academic interests.

The undergraduate major is a program of study anchored in a particular discipline but specifically structured to include courses in related disciplines. This concept recognizes that breadth of knowledge must be maintained and achieved concurrently with specialization. Particular attention is

placed on the interrelation of the major programs within the University and early research opportunities.

A major consists of 12 to 19 courses taken from those designated by a department. No department may require a student to take more than 19 courses in a major, but a student may take more than 19 courses if he or she meets the other University requirements for graduation. Majors must be declared prior to the beginning of the junior year.

Majors are offered in

- ancient civilization
- art (art history, studio arts, or fine arts)
- biochemistry and molecular biology
- biology
- business management
- chemistry
- comparative literature
- computer science
- economics
- English
- environment, technology, and society
- foreign languages
- French
- geography
- German
- government and international relations
- history
- international development and social change
- mathematics
- music
- philosophy
- physics
- psychology
- Romance languages
- screen studies
- self-designed
- sociology
- Spanish
- theater arts

INTERDISCIPLINARY DEPARTMENTAL MAJORS

One of the strengths of Clark's university-college experience is the willingness of faculty and students to cross the traditionally rigid lines between academic fields in fresh ways. Clark's interdisciplinary majors, and special programs and concentrations, help students to see beyond the barriers of academic specialization. The course listings under each of these programs and areas of study offer more complete information on each of these areas.

Ancient Civilization

The ancient civilization major includes courses covering the entire spectrum of ancient Mediterranean culture including Greek, Hebrew, and

Latin languages. Throughout the program, emphasis is placed on developing a sound interdisciplinary knowledge of the ancient Greco-Roman and Judaeo-Christian roots of Western civilization. For more information, refer to the departmental listing.

Biochemistry and Molecular Biology

The Biochemistry and Molecular Biology Program began some ten years ago in response to the extraordinary advances being made in this area of science. We now understand the molecular mechanisms of life to a degree that was formerly unimaginable; the development of techniques for gene cloning and DNA sequencing, especially, has revolutionized the biological sciences. To provide an opportunity for undergraduates to participate in these exciting new discoveries, this interdisciplinary undergraduate major was developed by biochemists in the Biology and Chemistry Departments. It allows students to obtain a solid background in fundamental biology, chemistry, physics, and mathematics, and then to study contemporary biochemistry, and more advanced topics such as recombinant RNA, protein chemistry, molecular genetics, and neurochemistry. Undergraduates can also participate in research with program faculty members. For more information about courses and requirements, refer to the departmental listings.

Business Management

Two options are available to undergraduates interested in a business/management program:

1. *The Business Management Major*: Students interested in a management career in a profit or nonprofit organization (business, government, education, healthcare delivery systems, religious institutions, etc.) and who wish to explore job opportunities after graduation, deferring their graduate studies, should consider majoring in business/management. The program draws upon the broad liberal arts distribution requirements, integrating them into a program that is practical as well as broadly educational. For more information, refer to the management listing.
2. *The Five-year B.A./M.B.A. Program*: Strongly recommended for students who plan to pursue a master in business administration after their undergraduate work, this program offers an opportunity for accelerated graduate study. During their senior year, a select group of students, who meet the program requirements, finish their major requirements and are also permitted to enroll in graduate management courses, thereby enabling them to complete the M.B.A. in one year beyond the undergraduate degree, rather than the usual two years. Five-year B.A./M.B.A. students do their B.A. work in a field other than business/management (e.g., art, economics, foreign languages, psychology, government, etc.) and take related courses or electives to prepare them for graduate work in the senior year. They receive their B.A. after the senior year and the M.B.A. after the fifth year. For more information, refer to the management listing.

In addition to these programs, the Graduate School of Management

offers a Master of Business Administration Program and a Master of Health Administration Program, which is offered in conjunction with the Department of Family and Community Medicine of the University of Massachusetts Medical School. Students may enroll in either program on a part- or full-time basis. For more information, refer to the management listing.

Comparative Literature

This major allows the student of literature to transcend the boundaries of any one national literature, period, or genre. Comparative literature students are encouraged to combine such areas as philosophy, visual and performing arts, psychology, and history with their specific interests in language and literature. For more information, refer to the departmental listing.

Computer Science

The Department of Mathematics and Computer Science offers a strong program in which computer science is viewed as an essential discipline within the general academic mission of Clark. The major in computer science entails a sequence of introductory and core courses in which the principles of the field are exposed. Majors may then concentrate in various areas of computer science such as artificial intelligence, database design, software development, compilers, and operating systems. Many students find it desirable to combine computer science with some other field such as management, economics, or psychology in order to graduate with a double major in two separate disciplines. For additional information, please refer to the listing for the computer science major.

Environment, Technology, and Society

Clark is one of a few universities in the country to offer an undergraduate major in the interdisciplinary field of environment, technology, and society. The Environment, Technology, and Society (ETS) Program is designed for students who hope to contribute to the solution of complex societal problems such as environmental protection, energy policy, technological hazards, and risk analysis. Degree requirements emphasize a firm grounding in natural science coupled with considerable exposure to social science and public policy perspectives, both derived from coursework in traditional departments.

The ETS Program offers some thirty problem-oriented and methodological courses and a variety of special projects and internship experiences, often in conjunction with ongoing faculty research. ETS courses and projects serve not only ETS majors but also other students taking ETS courses as electives. The program also offers an integrated B.A./M.A. degree option, which can be pursued by ETS majors and majors in traditional disciplines. Students from outside Clark may pursue M.A. or Ph.D. programs in environmental affairs or in technology assessment and risk analysis. For more information on the ETS major and related advanced degree programs, consult the departmental listing or the ETS office.

International Development and Social Change

The Program for International Development and Social Change focuses on questions of equity, growth, and development at a time when developing countries are increasing their influence on the world's economic, political, and social systems. The program is intended to serve students from developing and industrialized areas. It provides a forum for diverse perspectives and offers both a B.A. major and a master's degree. Its hallmark is a unique combination of academic training and field research. Not only do students become aware of broad issues in international development, but they also acquire basic skills of resource management and social and economic analysis. Topics of particular interest include peasant behavior, local organizations, farming systems, rural development, geographic information systems, and patterns and interactions of class, race, gender, and ethnicity. Many students prepare for careers as planners, managers, and educators in public agencies and in private nongovernmental organizations that promote development domestically and more particularly in Asia, Africa, or Latin America; others choose further study in graduate and professional schools. For more information, refer to the departmental listing.

SELF-DESIGNED MAJORS

Because Clark students are encouraged to take the initiative in defining their academic objectives, their declared major need not be confined to traditional departmental majors or to the University's existing interdisciplinary programs. Many students take advantage of the opportunity to design their own majors—combining the perspectives of several fields to focus on a particular topic. Self-designed majors, established with the guidance of faculty advisors, are approved by the beginning of the second semester, junior year. Self-designed majors require approval by the dean of the college and are coordinated through the Academic Advising Center.

FORMAL CONCENTRATIONS

For students with a strong interest in an area of study outside of their major, the undergraduate college offers a series of formal concentrations. A formal concentration consists of a group of related courses designed both as an extension of the major and as a coherent undertaking in itself. Students who are interested in a formal concentration select their concentration courses in consultation with a faculty advisor.

Formal concentrations are offered in American studies, communication, education, Judaic studies, neuroscience, women's studies, and peace studies. In addition, courses are offered in anthropology, astronomy, classics, geology, linguistics, and Russian, but departmental majors for bachelor degree candidates are not available in these fields. Detailed descriptions of all majors and programs can be found under the departmental listings.

ACCELERATED PROGRAMS

To help bridge undergraduate and graduate education, Clark has

established several integrated programs that allow students to complete requirements for bachelor's and master's degrees at an accelerated pace. Because undergraduates are granted admission to these special programs before receiving their undergraduate degree, they can begin to fulfill advanced degree requirements during their junior and senior years.

Each bachelor's/master's degree program is career-oriented and spans several disciplines; each provides participants with the knowledge and skills needed for entry-level professional positions and normally covers a three-year span, beginning in the junior year and leading directly to a master's degree. The bachelor's degree is awarded en route to the master's. The programs provide students with the knowledge and skills to enter a profession directly or to continue in a Ph.D. program. *Formal application for admission to these programs is required during the sophomore year.* Transfer students applying for these programs should direct their inquiries to the Admissions Office.

The University has approved accelerated B.A./M.A. programs in Environment, Technology, and Society; Geography; International Development and Social Change; and Public Administration. Students interested in a business career are attracted to the five-year B.A./M.B.A. program. In addition, the School of Geography offers a seven-year B.A./Ph.D. program, open to a limited number of highly qualified students.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special project courses, which may be entered with the permission of the instructor concerned. Directed Readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the instructor. Special Projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but may not exceed a full course except by petition to the College Board. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses that may be counted toward the B.A. degree.

Special Opportunities for Study

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, Becker Junior College, or Quinsigamond Community College.

More than 15,000 students have cross-registered under the consortium arrangement since 1968. The "extended university" affords Clark students

easy access to increased programs and course options at no extra charge.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project; consortium students have been involved in a lead paint testing program; engineering students from Worcester Polytechnic Institute, University of Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option, which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended university" as defined by the Worcester Consortium. A music option also is available to stimulate intercollegiate participation in performing groups, to encourage cross-registration in music courses, and to make available concentrated study for students with extensive music backgrounds.

Courses taken at consortium institutions should not duplicate those taught at Clark. Approval of the department chair or, when necessary, the dean of the college is required. Students enrolled in the undergraduate college may not enroll independently at other consortium institutions and receive Clark credit. To help students select cross-registration courses, the Consortium Office compiles a master course list by subject. This list is available in the Academic Advising Center prior to registration .

INTERNATIONAL PROGRAMS

Clark University is well known for its international character and is committed to encouraging a strong Clark presence abroad and an international presence on campus. The Office of International Programs serves both areas, through its international study programs and exchanges and its services to international students.

Fifteen Clark-sponsored international study programs in Great Britain, France, Germany, Italy, Spain, and Japan are available on a competitive basis to qualified undergraduate students as follows:

Great Britain

City University, London
London School of Economics
University of East Anglia
University of St. Andrews, Scotland
University of Sussex
University of Stirling, Scotland
London Internship Program

France

Centre International d'Etudes
Francaises (CIEF), Dijon
University of Bourgogne, Dijon

Germany

University of Trier
University of Seville

Spain

Cursos Americanos, Segovia

Italy

Rome Classics Center

Japan

Kansai Gaidai, Osaka
Sophia University, Tokyo

Students who study abroad on a Clark program pay regular tuition, room and board to Clark. Clark assumes responsibility for the students' academic programs and normal living expenses for the academic year. Students may earn up to a full year of credit through study abroad. Students interested in study abroad should attend regularly scheduled meetings or drop by the Office of International Programs to pick up a copy of *Study Abroad Guidelines*.

The Office of International Programs assists all graduate and undergraduate international students and faculty in obtaining the proper visa for entry into the U.S. and provides them with information on immigration regulations and practical and personal questions related to life in the U.S. and at Clark.

For further information, contact the Office of International Programs, (508) 793-7362.

CLARK EUROPEAN CENTER IN LUXEMBOURG (CECIL)

The Clark European Center offers students and faculty additional opportunities for study and research abroad. A special feature of CECIL is the May Term, which follows the spring semester. Clark faculty take groups of students to Luxembourg on a four-week academic program especially suited for Luxembourg and its environment. Students earn one unit of credit for participating in any one of three or four courses that vary from year to year. Titles of recent May Term courses include: *Romans and Barbarians*, *Field Biology of Western Europe*, *Economic Prosperity and Environmental Quality in Europe*, and *Transitions on the Rhine: Armageddon to Amity*. As part of the May Term experience, students broaden classroom learning by field trips to sites of particular interest in Luxembourg and the surrounding countries.

CONSORTIUM GERONTOLOGY STUDIES PROGRAM

The Worcester Gerontology Studies Program is offered as part of the Worcester Consortium for Higher Education. This program provides courses and internships in a coordinated curriculum leading to a Certificate in Gerontology. Career planning for students in the program is coordinated through the Consortium Office in coordination with on-campus career programs.

A variety of courses related to aging is available among consortium colleges and exemplify the multidisciplinary nature of gerontology as a field of study. Contacts with a variety of agencies in the community have been developed in order to place and supervise students in internships with the elderly. To enhance support and supervision of the internship experience, the program organizes internship seminars and workshops. These address common issues and concerns of student interns and enable students to learn from their peers.

Placements for internships are in a variety of settings: nursing homes, day care centers, family service associations, home care corporations, neighborhood centers, councils on aging, retirement programs, health services, and hospitals. Roles can be as varied as counselling, visiting, occupational and physical therapy, legislative assistance, advocacy, administration, and others.

For further information about the Gerontology Studies Program, contact the Coordinator, Susan Perschbacher Melia, Worcester Consortium Gerontology Studies Program (WCGSP), UMass Medical School, Center on Aging, 55 Lake Avenue North, Worcester, Massachusetts 01655, (508) 856-3662.

ACADEMIC ADVISING

The Academic Advising Center provides students with assistance in planning their academic programs through a coordinated set of activities and services. At the center, all new students are assigned an academic advisor who helps guide their choices of courses and programs. Once a student has selected a major, academic advising is coordinated within the student's major department.

Among the academic support services are:

- *Writing/The Writing Center:* Recognizing the importance of writing in all fields, Clark offers interdisciplinary, departmental, and special Writing Center programs. The required Verbal Expression Program and first-year seminars offer courses in many disciplines. In many of the courses, class work is supplemented by peer writing groups. In addition to the required Verbal Expression Program, departments such as English, History, and Biology offer courses in basic, intermediate, and advanced expository writing as well as in science, social science, and creative writing. Supplementing the curriculum, Clark's Writing Center provides individual tutoring and noncredit workshops for all interested students. Writing Center offerings are flexibly designed to help students at all levels achieve clear, correct, graceful writing.
- *The Math Clinic:* Structured as a not-for-credit experience, the Math Clinic provides students with assistance in developing their quantitative skills. Individualized tutoring is available for those with specific math needs.
- *The Special Needs Program:* Students with identified special learning needs may enroll in this program to provide them with specialized advising, remediation, study skills assistance, and faculty/course mediation.
- *The Peer Tutoring Program:* This service provides individualized subject tutoring across a wide range of courses and disciplines. Trained peer tutors offer this service for a minimal fee.
- *Learning Skills Program:* Through group workshops and individual appointments, students may participate in time management, test taking, note taking, and test preparation programs to improve their study skills.
- *Language Arts Resource Center:* This center provides video and audio tapes as well as access to live and taped satellite broadcasts of

international news and programs to assist students learning a foreign language. The center is located on the fourth floor of Goddard Library.

- *Goddard Library Public Services—Reference Desk*: Students working on research projects may receive instruction and assistance at the reference desk on the use of the extensive research resources of Clark University libraries as well as the consortium library system.
- *Office of Information Systems (OIS)*: The Computer Center in Woodland Hall offers tutors by appointment to assist students in mastering Clark's computer programming and word processing resources.

THE AMERICAN LANGUAGE AND CULTURE INSTITUTE (ALCI)

ALCI serves as a resource for international students pursuing study at the undergraduate and graduate levels. ALCI offers a series of credit and not-for-credit seminars and courses enhancing students' knowledge of and facility in the language, as well as the academic and cultural milieu of the United States.

For further information, contact the College of Professional and Continuing Education.

PREPROFESSIONAL PROGRAMS

Clark University recognizes professional preparation is fully compatible with a liberal arts education. In that spirit, Clark offers a bachelor of fine arts degree and preparation for careers in management, computer science, education, law, medicine and other health sciences.

Prelaw

Students interested in law school are advised to plan a broadly based academic program that is liberal in character and that draws from the natural and physical sciences, social sciences, and the arts and humanities. Although there is no specific undergraduate major or constellation of courses recommended by law schools, it is important that the courses selected lead toward the development of certain skills: (1) *Communication and articulation skills*: courses in composition, creative writing, and speech as well as courses in history, philosophy, government, theater, and other fields in which the ability to read, write, and speak well is stressed; (2) *Quantitative analysis*: courses in mathematics, computer science, economics, and geography, which help develop the ability to compile, understand, interpret, and analyze data; (3) *Logic*: the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them; all courses that provide training in this skill are highly desirable; (4) *Critical understanding*: courses in ethics, history, philosophy, sociology, and other humanities and social sciences that promote understanding of human institutions and values.

In general, the records of students applying to law schools will be evaluated by law schools according to several criteria: (1) the overall

quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult the prelaw advisor through the Academic Advising Center.

Premedical/Predental

Students interested in premedical or predental programs may major in any of the sciences, social sciences, or humanities but must complete, normally before the end of the junior year, at least the minimum requirements for admission to medical and dental schools: one year each of introductory chemistry, biology, physics, and organic chemistry (all with laboratories), and one year of English. A year of calculus and a semester of psychology also are strongly recommended or required by many medical and dental schools. Although there is considerable variation, some medical or dental schools encourage students to take courses in quantitative analysis, physical chemistry, and advanced biology. Proficiency in quantitative reasoning, communication skills, and reading comprehension must be developed, and a broad liberal arts background is helpful toward that end. In selecting their courses and planning their programs, students are urged to consult members of the Premedical and Predental Advisory Committee and the pamphlet, *A Conversation about Premedical and Predental Studies at Clark University*, compiled by the committee. Copies of this and other materials pertaining to premedical, predental, and other health profession programs are available in Sackler Sciences Center, Room J307, and at Career Services.

NONTRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (e.g. internship experiences, off-campus research, study at nonaccredited institutions) are sometimes eligible for course credit. To qualify, an experience must involve a significant extension, embodiment, or illustration of previous or concurrent systematic academic work. It must take place under competent supervision, and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student *prior* to the beginning of the experience. Course credit will not be given for work that duplicates previous coursework or other prior educational experiences. Internship experiences are graded pass/no record unless deemed exceptional after review by the dean of the college.

INTERNSHIPS

The Clark University Internship Program offers qualified students the opportunity to spend a semester working off campus, full- or part-time, as an extension of the academic curriculum. Having undertaken sufficient coursework in a related discipline, the student may choose a position from a large number of agencies offering internship placements. These positions allow him/her to perform extended work in that discipline while testing areas of potential career interest. Academic credit is offered for internships that take place under the supervision of qualified agency sponsors and in

conjunction with appropriate Clark faculty members. Internships are equivalent to undergraduate courses, and tuition is assessed on a per-credit basis. All internships must be approved by the Internship Program. Internships are generally graded on a pass/no record basis.

WASHINGTON STUDIES PROGRAM

Clark participates in the Washington Semester Program of the American University in Washington, D.C. and the Washington Center for Internships and Academic Seminars.

Under these programs, students spend a year studying and/or working in the nation's capital. Although any student may participate in these programs, the opportunity is particularly attractive to students majoring in government and international relations, history, economics, and sociology. Inquiry and application should be made to the chair of the Department of Government and International Relations for the Washington Semester Program or to the director of the Internship Program for the Washington Center for Internships and Academic Seminars.

RESERVE OFFICERS' TRAINING CORPS (ROTC)

Clark University students may voluntarily participate in and receive benefits from the two- or four-year Army ROTC programs conducted at Worcester Polytechnic Institute. American citizens who are physically qualified and who satisfactorily complete the two- or four-year program will be commissioned as second lieutenants in the U.S. Army. Graduates may serve in the active Army, the Army Reserve, or the Army National Guard. Students may also request a delay in service obligation to attend graduate school.

Students may compete for two- and three-year Army ROTC scholarships. This competition is based upon the students' achievements, both scholastic and extracurricular, and not upon the financial status of their family.

For further information, interested students should contact the Army ROTC Department at Worcester Polytechnic Institute. The office is located in Room 28 of Harrington Auditorium. The phone number is (508) 752-7209.

Academic Facilities and Resources

LIBRARIES

The Robert Hutchings Goddard Library is the academic heart of the University and an architectural landmark. The library contains 500,000 volumes (including microform volumes), a collection of 240,000 monograph titles, and subscriptions to 2,300 periodicals. As a member of Worcester's educational consortium, Clark also offers students the use of eight Consortium college libraries and a combined collection of more than 2 million volumes.

Goddard Library offers an exciting mix of educational resources, including a viewing area for videocassettes; a listening area for compact disks, records, and tapes; a language lab; microcomputers; and terminals linked to the campus computing network. Through the online catalog, students and faculty have access to the collections of 43 member libraries with holdings totaling 4.5 million volumes. A number of CD ROM databases are available for searching citations to periodical literature and business records.

The library is open 102 hours per week, with a normal weekday schedule of 8 a.m. to midnight. The schedule is extended at exam times to provide even longer study hours.

The Guy Burnham Map and Aerial Photography Library. Founded in 1921, this library is an active cartographic information center. The collection, global in scope, contains 178,000 maps and 7,300 aerial photographs, as well as atlases, journals, globes, map reference materials, and tourist information. Depository agreements with the United States Geological Service and the United States Government Printing Office supply a full array of U.S. government maps. The library is located on the lower level of the Geography Building.

The CENTED Library. The Center for Technology, Environment, and Development (CENTED) houses a specialized research collection that is coordinated with the University's central library. The CENTED library, located at 18 Claremont Street, contains books, technical reports, government documents, and data boxes in the areas of risks and hazards, technology, environment and development, energy, water resources, and global environmental change, as well as subscriptions to some 375 journals and newsletters. Computer records provide on-line access to an extensive collection on radioactive waste management, nearly 1200 congressional hearings and reports, an extensive vertical file of articles on international development, and a collection of media responses to the Chernobyl nuclear accident.

The Science Library, a branch of Goddard Library, serves the Clark community in the disciplines of biology, chemistry, and physics. Located on the top floor of the Sackler Science Center, it houses selected science journals from 1960 on and a research collection of recent monographs. An automated circulation system also gives access to holdings in Goddard Library and 42 other Consortium libraries. A seminar room and microcomputers are available for faculty and student use. The library is open eighty-three hours each week, with a weekday schedule from 8 a.m. to 10 p.m. The hours are extended until midnight during exams.

MEDIA SERVICES

The Media Services Office is located in Jonas Clark Hall. The office provides audio-visual support for classroom presentations and campus-wide events. Media Services provides consultation and assistance on production of teaching materials and the documentation of campus events and classroom activities. The various types of equipment available to faculty, staff, and students include videocassette recorders, video camcorders, cassette tape recorders, 16mm projectors, slide projectors,

overhead projectors, and computer projection equipment.

Media Services also offers a FAX service to members of the Clark community, with transmission during regular business hours and receiving twenty-four hours a day.

OFFICE OF INFORMATION SYSTEMS

The University Computing Center houses Clark's cluster of VAX Digital Equipment Corporation (DEC) computers including a VAX 6310, a VAX 8530, and two VAX 11/750s used for teaching, individual instruction, and research. Available through public access sites in Woodland Hall and the Goddard Library are numerous network terminals, personal computers, and printers for undergraduate student use. Open seven days a week, the centers also offer the use of a variety of graphics terminals, microcomputers, and software to meet the diverse needs of students enrolled in the humanities, social sciences, and sciences. Specialized equipment is also available in various departments in support of unique applications such as the cartography laboratory in Geography. Clark also offers a personal computer facility in Jonas Clark Hall that houses Macintosh and IBM microcomputers. This facility and the Woodland Hall facility serve as group classroom space for scheduling of "hands on" courses using both microcomputers and network terminals.

SCIENCE FACILITIES

The \$8-million Arthur M. Sackler Sciences Center opened in the fall of 1984. The brick and glass complex links the Biology, Chemistry, and Physics Departments and houses facilities for both teaching and research. Interdisciplinary programs, such as Biochemistry; Molecular Biology; Neuroscience; and Environment, Technology, and Society, also are housed in Sackler. State-of-the-art scientific equipment, such as an electron microscope and high-field nuclear magnetic resonance (NMR) spectrometers, serve Clark students and researchers, as well as others in the central Massachusetts region. A centralized science library and microcomputer rooms also are housed here.

VISUAL AND PERFORMING ARTS FACILITIES

- The George F. and Sybil H. Fuller Foundation Center for Music, dedicated in March 1985, is a state-of-the-art facility for teaching, performing, rehearsing, recording, and experimentally creating music. The Center has two new Computer Music Studios, one a powerful direct digital system built around a Digital MicroVAX II, and the other, a hybrid studio with a personal computer interfaced to digital synthesizers.
- Studio space for drawing, painting, graphic design, visual studies, and photography as well as darkrooms and printmaking facilities
- Two theaters—the 650-seat Atwood Hall and the 150-seat Little Center Theater, both of which also serve as concert halls
- A newly installed sculpture and theater set construction studio
- A University Gallery, directed by student interns, provides learning experiences in arts management and exhibition design.

RESEARCH INSTITUTES AND CENTERS

The Center for Technology, Environment, and Development (CENTED), located at 16-18 Claremont Street, is an interdisciplinary research organization established in 1978. The center conducts basic and applied research related to major societal and global problems, including technological hazards, environmental aspects of international development, energy policy, and global environmental change. CENTED also conducts distinctive training programs for professional researchers and practitioners and maintains close links with other international research centers, governmental agencies, international organizations, and private voluntary organizations. It also has an internationally recognized research library. CENTED's interdisciplinary research groups engage more than thirty scholars representing a diversity of disciplines, including anthropology, biology, chemistry, economics, geography, government, international development, medicine, physics, philosophy, social psychology, sociology, and toxicology.

The Heinz Werner Institute for Developmental Analysis is devoted to the application of developmental analysis to all psychological and psychocultural phenomena. Heinz Werner (1890-1965), one of the leading psychologists of the past half century, was the first chairman of the Board of Directors of the Institute of Human Development, founded at Clark in 1957 to promote the application of developmental analysis to all of the life sciences. After his death, the trustees of Clark renamed the institute in Werner's honor in recognition of his stature and eminence as a scholar, teacher, and scientist.

The Institute is designed to promote conceptual and empirical inquiry into all aspects of human development and to provide education and training in holistic-developmental analysis and synthesis. The Institute encourages interdisciplinary conferences and research cooperation among all groups whose primary interest is in the promotion of human development. Dr. Seymour Wapner is chair of the Institute's Executive Committee.

The Institute for Economic Studies, funded and supported by the John M. Olin Foundation, began its operation in January 1980. The institute's main objectives are to research significant economic issues and propose policy options to deal with them and to disseminate the results of the research—particularly its policy recommendations—to a broad audience. The institute provides a framework within which new curricula and teaching methods may be developed. In addition, a Scholar-in-Residence Program was instituted in 1984 to stimulate the exchange of ideas and dialogue between guest scholars and members of the institute and economics faculty. The institute director is Professor Attiat F. Ott.

Requirements for a Bachelor's Degree

GENERAL REQUIREMENTS

At Clark we view education as developmental; it is much more than a simple accumulation of credits. As a result, students may not accelerate their progress toward graduation by more than one semester. All matriculated students must complete a minimum of seven full-time academic year semesters or their transfer equivalent for graduation.

Course and graduation requirements: Academic credit toward the bachelor of arts degree is expressed in terms of course units. Each course is equivalent to one unit (four credit hours). To earn a bachelor's degree, a student must complete satisfactorily a minimum of 32 course units (128 credit hours) with a minimum 2.0 grade point average. He/she must receive a C- or better in at least 24 of these courses. Successful bachelor of arts degree candidates must also satisfactorily complete all institutional, major departmental and *Program of Liberal Studies* requirements for graduation. Transfer credit for students with fewer than 32 courses in residence is established by the College Board.

For the purpose of transfer, a full Clark course is equivalent to four semester hours of credit.

RESIDENTIAL CREDIT

To earn a bachelor's degree at Clark, a student must earn at least one half the total number of course units for the degree and at least one half the total number of course units taken for fulfillment of a major in a Clark program. External credit is credit earned in the following categories:

1. Advanced placement and transition programs
2. Summer school credit taken after matriculation at Clark
3. Credits transferred from other American colleges and universities
4. Credit earned in foreign study programs administered by American or foreign institutions of higher learning other than Clark.

The amount of transfer credit that can be applied to a bachelor's degree at Clark is limited by category.

1. No more than one semester (4 units) may be granted in advanced placement (A.P.). A.P. credit is defined as one unit of degree credit assigned for a score of 4 or 5 on a CEEB A.P. examination taken prior to matriculation and before the student formally enrolls. Students also may receive credit for college work completed prior to their matriculation at Clark University if that credit was not needed to fulfill high school graduation requirements, is in a content area deemed academically acceptable to Clark, and is from an accredited college or university. Finally, students *may* apply for advanced placement credit based on coursework or exams taken in international programs (e.g. International Baccalaureate, A levels, etc.). Credit is assigned on a case-by-case basis.

2. Students transferring to Clark from another institution may transfer in *no more than 16 units* of course credit. Students who begin their coursework at Clark may subsequently transfer *up to 12 units* of course credit from other schools.
3. Normally, no more than one year (8 course units) may be taken in study abroad programs.

DECLARATION OF THE MAJOR

Students must declare their major no later than the end of the second semester, sophomore year. Changes in major after this point are possible but may prolong the undergraduate experience. First-year students and sophomores are encouraged to seek advice from their faculty advisor or the Academic Advising Center.

ACADEMIC REGULATIONS

Full-time study is defined as a three- or four-course program. Normally undergraduates carry four courses per semester. Full-time students must enroll in three or more courses per semester. Students should consult their faculty advisor, the Academic Advising Center, or major departments when questions about course or program selection arise. With approval from the College Board, juniors and seniors with good academic records may enroll in a fifth course each semester at no additional cost.

While first-year students and sophomores may choose any course designated by a department as open to them, 200-level courses are normally designed for juniors and seniors. Juniors and seniors may elect any 100- or 200-level course, provided they have met all required prerequisites and have the required permission of the faculty member.

Undergraduates may be admitted to 300-level graduate courses with the approval of the dean of graduate studies and research.

GRADES

Grades are an indication of individual performance in each course taken at the University. At Clark four grading patterns are currently in use:

1. *Graded courses*: This pattern uses the symbols A, B, C, D, and F with the modifying symbols "+" and "-" for A, B, and C. The lowest passing grade is D.

The faculty has approved the following qualitative description of grades:

A indicates work of distinction, of exceptionally high quality

B indicates good work, but not of distinction

C indicates average work and satisfaction of University degree requirements

D indicates marginal work

F indicates unacceptable work.

2. *The Failure Removed (FR) Grade*: Students enrolled in graded courses will receive an FR in place of their first two earned F grades. An FR will not appear on the student's transcript. After a student has received two FR grades, all subsequent F grades *will* appear on the transcript and become a part of the student's permanent file. An F

grade also may be assigned by the College Board in cases of serious infractions of academic integrity. This F grade may not be removed.

3. *The Pass/No Record Option:* This option uses the symbols P, NR. P indicates work at a level of C- or better. Neither the P grade nor its credit is included in the calculation of the grade point average. Performance below a C- results in a No Record (NR) grade. NR's do not appear on students' transcripts. TStudents must choose this grade option at registration. There is no limit to the number of NR grades that a student may receive. However, NR courses do not carry credit and may not be counted toward graduation or University requirements.
4. *The Credit/No Credit Option:* This grading option, assigned by the University to a course, uses the symbols CR/NC. CR indicates work at a level of C- or better. The NC is treated like an F.
5. *The Grade Point Average:* Grade point averages are calculated by the University to determine academic good standing, annual and January academic honors, Latin honors at graduation and eligibility for various honor societies. The grade point average is calculated as average of grades earned in all Clark University graded courses. Neither external credit nor ungraded Clark University courses are included in this calculation.

ELECTION OF THE PASS/NO RECORD OPTION

The availability of the pass/no record option in all courses is designed to help minimize the competitive aspects of grading for those who find competition detrimental to learning. Some students elect a number of their courses on this basis.

All students should remember that the majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Preprofessional students and those for whom graduate school is a goal should exercise caution in selecting the pass/no record option. Students who are interested in attaining honors, such as Phi Beta Kappa, annual or January honors, and general course honors at graduation, also should exercise the option cautiously.

NONCREDIT AUDIT STATUS

With the permission of the instructor, full-time degree students are eligible to register as auditors in any course. There is no additional charge for this privilege. Part-time matriculated students also may register as auditors with the permission of the instructor and the payment of a per course fee. In limited or sectioned courses, regularly enrolled Clark students are given preference for available openings.

Matriculated students who successfully complete audited courses (this determination is made by the instructor) also will have the audited courses posted on their permanent records.

Note: Records for nonmatriculating auditors are kept for only the semester in attendance. Transcripts are not issued for audited courses.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes. Withdrawal from a course after the fourth week of classes constitutes withdrawal from an enrolled course, and the student may not substitute another course in its place. Withdrawal from a course after the fourth week of any semester results in a W being recorded on the student's transcript. Students compelled to withdraw from a course due to exceptional circumstances (e.g. serious illness) may petition the College Board for the Withdrawal with Reason (WR) transcript notation for the course(s).

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or dean of the college only when sickness or some other unavoidable circumstance prevents completion of the course. *Individual instructors may not* assign incompletes without the approval of the College Board or dean of the college. A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester, it must be made up no later than the following October. *If a course is not completed within the specified time, the record of incomplete is changed to F.*

REGISTRATION

All continuing undergraduates are expected to register in November for the spring semester and again in April for the following fall semester. Details are provided in the registration class schedule each semester. Registrations must be finalized by the end of the second week of classes each semester. Notification of the dates for registration is given, and failure to register within the announced period results in a late fee.

EXAMINATIONS

Final examinations are given at the end of most courses. Approximately one week is set aside for each examination period, and an attempt is made to distribute examinations for individual students evenly throughout this period. Absence from a final examination, except for the most compelling reasons, may result in a failure for the course. Comprehensive final exams are not to be given (or to be due) during the last week of class nor during the scheduled reading period. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The University has no class attendance requirements; however, instructors have the prerogative of establishing such requirements for their own courses.

STUDENT ABSENCE DUE TO RELIGIOUS BELIEFS

According to Massachusetts state law, any student in an educational or vocational training institution, other than a religious or denominational educational or vocational training institution, who is unable, because of

his or her religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day, shall be excused from any such examination or study or work requirement. He/she shall be provided with an opportunity to make up such examination, study, or work requirement that may have been missed due to such absence on any particular day, provided, however, that such makeup examination or work shall not create an unreasonable burden upon the school. No fees of any kind shall be charged by the institution for making available to the student such opportunity. No adverse or prejudicial effects shall result to any students because of their availing themselves of these provisions.

COURSE CHANGES

After registration is complete, a student may enter a course only with the permission of the instructor. Students may add courses up to four weeks after the beginning of classes. Thereafter, a student may enter a course only with the permission of the instructor and the College Board or the dean of the college.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses:

To the sophomore class	6 courses
To the junior class	14 courses
To the senior class	22 courses

PARTIAL PROGRAMS

In special circumstances, students may be permitted by the College Board or the dean of the college to register for a semester program of less than three courses. These students are designated as part-time students.

GUEST AND SPECIAL STUDENTS

Guest students from other colleges and universities who want to study at Clark for one or two semesters and special students who want to take only a few courses without enrolling as degree candidates may do so. Students who wish to enroll as guest students should contact the Admissions Office. Persons interested in special student status should contact the registrar.

ACADEMIC STANDING

Academic standing is reviewed each semester and is based upon performance during the previous semester. All students are required to pass at least two courses with grades of C- or higher each semester. In order to remain in good academic standing, first-year students must complete at least five courses (with a minimum 1.7 grade point average) by the conclusion of their first year, sophomore students must complete at least six courses (with a minimum 2.0 grade point average) for the year.

Juniors and seniors must also pass a minimum of six courses each year with a minimum 2.3 grade point average. In addition, students may earn no more than eight D grades for credit towards graduation. Students who fail to meet these requirements will be placed on academic probation for the next semester they are enrolled in the institution.

Students who do not maintain academic good standing or who violate academic integrity may be placed on academic probation or may be dismissed by the College Board or the dean of the college. The progress of students who are placed on academic probation is subject to continual review by the board.

Students on probation are expected to complete four courses with grade point averages as determined by their class standing (see above) or face a required withdrawal for the subsequent semester. A second required withdrawal requires the student to complete three courses at another institution with grades of C- or higher prior to their application for readmission to Clark. A third required withdrawal is final.

ACADEMIC INTEGRITY

Academic integrity is a basic value for all higher learning. Simply expressed, it requires that work presented must be wholly one's own and unique to that course. All direct quotations must be identified by source. Academic integrity can be violated in many ways: for example, by submitting someone else's paper as one's own, cheating on an exam, submitting one paper to more than one class, copying a computer program, altering data in an experiment, or quoting published material without proper citation of references or sources. Attempts to alter an official academic record will also be treated as violations of academic integrity.

To ensure academic integrity and safeguard students' rights, all suspected violations of academic integrity are reported to the College Board. Such reports must be carefully documented, and students accused of the infraction are notified of the charge. In the case of proven academic dishonesty, the student may be required to withdraw from the University.

LEAVES OF ABSENCE

A student who is in good standing may apply to the dean of students for a leave of absence, after which he/she may return to the University without formal application for readmission.

NO SHOWS

Students who fail to enroll for two consecutive semesters without taking a formal leave of absence or who have voluntarily withdrawn from the University for a period of two semesters will be administratively dismissed from the institution. To be considered for readmission after this dismissal, students must apply to the dean of the college.

Honors and Awards

DEPARTMENTAL HONORS

At the beginning of the junior year and, in some cases, at the beginning of the senior year, students may elect a program leading to a bachelor's degree with honors in a particular subject. Students electing honors are assigned an honors advisor who assists them in planning a unified program of courses for the junior and/or senior years. Honors programs include a maximum of six courses in which the student works with a large measure of independence under the supervision of the advisor. In the senior year, the student must pass a comprehensive examination given by the department. Department approval is necessary for admission to honors programs.

Admission to an honors program does not exempt the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he/she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors; such recommendation occurs at the conclusion of the honors program.

ANNUAL HONORS

DEAN'S LIST

Each semester, the dean of the college publishes a list of students who have distinguished themselves by outstanding academic performance in the preceding semester. Honors are awarded to the top students in each class based on semester grade averages.

LATIN HONORS

Latin honors are awarded at three levels: *cum laude*, *magna cum laude*, and *summa cum laude*. Honors are determined by the College Board on the basis of eight semesters' work or its equivalent. Criteria, such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark, are used for determining the awarding of general honors. Ordinarily three quarters of a student's record at Clark must be graded if he/she is to be eligible for general honors.

PHI BETA KAPPA

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs that are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

GRYPHON AND PLEIADES

Gryphon and Pleiades is the senior honor society at Clark. Its membership includes students who have been recognized by administration, faculty, and their peers for academic achievements and leadership in campus extracurricular activities. Members of Gryphon and Pleiades strive to further the best interests of Clark University. In addition, the society makes suggestions to the faculty, administration, and the student body for the improvement of campus life.

FIAT LUX HONOR SOCIETY

The Fiat Lux Honor Society was created in 1988 as a student honor society recognizing combined qualities of scholarship and citizenship among Clark juniors and seniors. All Clark students are eligible for selection into the Fiat Lux Society.

Qualifications for selection by a faculty committee include a minimum 3.2 grade-point average and a significant extracurricular contribution to the Clark community. Members of the society must pledge ten hours of volunteer service to the community each semester. Annual Fiat Lux Society events include society-sponsored speakers' forums.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS

ACADEMIC YEAR 1990-91

Tuition	\$14,000
Health Services Fee	200
Room:	2,300
Residence Hall/House double room	2,300
Residence Hall/House single room	3,100
Residence Hall/House triple room	2,000
Board (19 meals: \$2,200	2,200
10 meals: \$2,000 5 meals: \$1,275)	
Student Activity Fee	180
Telephone (required for residence hall students)	100
SUBTOTAL for continuing students	\$18,980
Charges that apply to new students only:	
Contingency Deposit	30
Orientation Fee	120
TOTAL	\$19,130

OTHER FEES

Clark Student Health Insurance (estimated) 365 single*
Students will be required to enroll in the Clark Insurance Plan unless they show proof of other coverage.

* \$730 student/dependent; \$1,095 student/2 or more dependents

Application Fee (undergraduate) 40

DEPOSITS

Admission Deposit 100

Residence Hall Deposit 100

Tuition Deposit (upperclassmen) 200

Note: Costs are subject to change from year to year.

GENERAL INFORMATION

Tuition, board, residence hall charges, and certain fees are due and payable prior to the beginning of each semester. The dates for 1990-91 are: August 15, 1990 for Semester 1 and December 15, 1990 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been arranged satisfactorily with the University. A Budget Payment Plan is available and is explained later in this section.

There is a *late* fee of \$25 assessed against all accounts not paid in full by the August and December due dates. In addition, *interest* at the rate of 1-1/4 percent per month (annual rate 15 percent) will be charged on all past due balances (including tuition deposit).

PAYMENT OPTIONS

Clark offers several payment alternatives to the usual tuition payment each semester. These options may be used individually or in combination with each other to best suit the needs of Clark families.

1. *Family Education Loan*: Clark University is one of fewer than 50 schools to offer this fixed-rate, supplemental education loan. This loan allows families to borrow up to the full cost of education at a fixed interest rate estimated to be 9.5 percent. At this rate, monthly payments are \$11.11 per thousand borrowed. In addition, the loan may be secured with home equity to allow for possible tax benefits.
2. *Monthly Payment Plan*: Clark University, in cooperation with Academic Management Services, makes available a flexible, interest-free payment plan. This plan allows a family to make ten equal monthly payments beginning in May. You determine the amount of the bill to be covered—all or only a portion. The \$45 application fee is the only charge and includes automatic insurance of the enrolled parent for the balance of the budgeted amount.
3. *Tuition Inflation Hedge*: Under this program, Clark University offers families the option of fixing the tuition rate for four years at the first-year level. To do so, families pay four years of tuition during the first year, at the current rate, avoiding any increases in tuition for the following three years. For more information and an application, please contact the assistant controller.

TRANSCRIPTS

Transcripts can be obtained from the Registrar's Office. There is no charge for first or unofficial transcripts. For all other transcripts, seniors pay \$1 per copy, and other students pay \$3.

REFUND POLICY

Withdrawals from the University are processed in the Dean of Students' Office. A student who officially withdraws in writing during the first week of any semester is allowed a refund of 80 percent on tuition; during the second week, 60 percent; during the third week, 40 percent; during the fourth week, 20 percent; after the fourth week there is no refund. The activity fee is refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above.

NORMAL PROGRAM AND COURSE LOAD VARIANCE

A normal full-time academic program is eight course units per year (four course units per semester). Students may elect to vary this pattern by taking three course units during any semester, and a course load of three courses per semester is a full-time course load and is billed accordingly. Juniors and seniors who have received College Board

permission may choose to take five courses in a semester at no additional charge. All students must complete a minimum of seven full-time semesters to meet degree requirements. Students may enroll in two units per summer. While there is no limit to the total number of summer courses students may take, normally only four units may be counted towards graduation.

Seniors in their last semester are expected to take the necessary number of units (up to five) for their degree. Full-time freshmen or transfer students, in their first semester at Clark University, must enroll in a four-course program. Students re-entering the University, or returning from leaves of absence, also must enroll in a four-course program during their first semester.

ORIENTATION FEE

A fee of \$120 is assessed to all new students to cover services and activities provided during orientation.

CONTINGENCY DEPOSIT

All new undergraduates are required to pay \$30 deposit to cover minor charges, such as property damage, which may be incurred during the year. Students are billed each year for whatever charges are incurred; the balance is refunded upon completion of studies.

HOUSING DEPOSIT

The \$200 fee submitted by first-year students to Admissions includes a \$100 housing deposit. Each spring, a deposit of \$100 is required of students in order to enter the room selection process. The deposit is credited towards the yearly housing fee and is nonrefundable.

APPLICATION FEE

A fee of \$40 must accompany the application for admission to the University. It is *not refundable*.

STUDENT ACTIVITY FEE

A fee of \$90 per semester, levied and administered by the Student Council, is required of all matriculated undergraduates. The Student Council allocates funds to student organizations which provide a wide range of cultural, social, and recreational activities.

ADMISSION DEPOSIT

For entering students planning to live on campus, a nonrefundable admission deposit of \$100 *and* a housing deposit of \$100 are required to indicate acceptance of an offer of undergraduate admission. For students planning to live off campus, only the \$100 admission deposit is required. Deposits are credited toward charges for the first semester in attendance at Clark. Deposits are *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of \$200 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by July 1 and is credited toward charges for the fall semester; \$100 of the deposit is forfeited if the student does not enroll for the specified semester.

IDENTIFICATION CARD

Identification cards are issued during Orientation to all new students without charge. This card is an official college identification and is necessary for access to all campus facilities. Loss should be reported immediately to the Campus Police. There is a \$10 replacement charge for lost I.D.s.

KEYS AND KEY SECURITY

Room keys, mailbox keys, and residence hall entry cards are issued to students upon their arrival at Clark. Fees are charged for the replacement of keys and cards that are lost during the year, and it is mandatory to return room keys and entry cards before leaving campus at the end of the academic year. Students need to return mailbox keys if they take a leave and when they graduate.

TUITION BUDGET PLANS

The University offers a budget plan designed for families who find it easier to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under this plan, annual college charges are divided into consecutive monthly payments. The plan administered for Clark University by Academic Management Services of Pawtucket, Rhode Island, allows families to budget over an initial period of ten months. (Subsequent years' payments may be spread over 12 months upon reapplication.) This plan also begins in May with final payment due in February.

For the 1990-91 academic year, the Academic Management Services plan application fee is \$45. This plan provides free life insurance coverage to eligible participants. This coverage guarantees payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. Information regarding this plan is mailed to continuing students and students who are offered admission to the University.

Student Services

ORIENTATION

New students are introduced to life as a member of the Clark community through the Orientation program at the opening of their first semester. This program helps students plan a course of study and familiarizes them with Clark University and the city of Worcester. Orientation facilitates academic, residential, personal, and social adjustment to university life.

UNIVERSITY HOUSING

Clark University provides housing for approximately 1,525 students in nine houses and eight residence halls. The residential community is intended to provide students with a living and learning environment via social, educational and recreational program opportunities. One residence hall, Dodd, is a female residence. All other halls and houses are coeducational. Special interest housing includes: a "language house," a "quiet house," a "nonsmoking house," and a "12-month house." First-year students, unless commuting from home, are expected to live in University housing and can choose between residences which house only first-year students or members of all four classes. Housing is available for most transfer students.

Rooms for new students are assigned during the summer, and assignments are mailed to home addresses in late June or early July. Rooms for continuing students are determined in the spring of the school year by a room selection process. When the demand for University rooms exceeds the available supply, this system determines who receives guaranteed housing and who receives wait-list status. The room selection number, in combination with class standing, determines the order in which students choose their particular room. Upperclass students generally have first choice in selecting housing spaces according to the room selection number they receive. Most continuing students requesting University housing receive it, though some receive room assignments later in the summer. Requests for University housing, when honored, are considered binding for the full academic year as long as the student is registered. Conditions for living in University housing are specified in the housing contract that is required of all residents.

An option for continuing students is to live off-campus in privately owned apartments. Approximately one-third of Clark students commute from home or live in private housing in the immediate neighborhood. A limited listing of available apartments is compiled by the Office of Housing and Residential Programs.

DINING HALLS AND MEALS

Clark University operates two dining halls for the convenience of the Clark community and guests: the University Hall in the University Center and Dana Commons. The new facilities provide a wide variety of options for Clark students, including dishes prepared at the serving line such as omelettes, grilled sandwiches, hamburgers, pizza, calzones, and stir-fry selections.

Our food service provides a money-back guarantee with the board plan contract. If a student is dissatisfied with a meal, the food service will produce an acceptable alternative or reimburse the student for the cost of that meal.

Students select from a variety of meal plans which vary in the number of weekly meals and particular dietary needs, such as kosher or vegetarian. In January 1991, a 160-seat deli/snack bar will open in the completed University Center.

HEALTH SERVICE

The Clark University Health Service is a primary care outpatient clinic that provides on-campus health care to full-time matriculated undergraduate students. It is staffed by family practice physicians from the Hahnnemann Family Health Center, nurse practitioners, a physician's assistant, and registered nurses. The clinic, located on the first floor of Wright Hall at 30 Downing Street, is open Monday through Friday 9 a.m. - 5 p.m. There is always a physician on call when the Health Service is closed.

Students may make an appointment at the Health Service with a clinician for diagnosis, treatment, follow-up, or counselling regarding health problems. Gynecological and contraceptive services are available.

The Health Service staff has a holistic approach to health problems. Emphasis is placed on prevention, wellness, and health education. Staff members consider their roles to be congruent with, and an integral part of, the educational process.

Prior to registration, students are required to submit a completed history and physical exam form to the Clark's Health Service. Massachusetts state law requires that college students under 30 years of age must present evidence that they are immunized against measles, mumps, rubella, diphtheria, and tetanus in order to register for classes. As mandated by Massachusetts law, all full-time and part-time students must be enrolled in a qualifying student health insurance plan offered by the University or in another health insurance plan with comparable coverage. Failure to submit proof of comparable coverage will result in the student being automatically enrolled in the Clark plan and charged accordingly. In order for the University to be in compliance with state law, students may not register for classes until they are enrolled in an insurance plan.

PSYCHOLOGICAL SERVICES CENTER

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, consultative, and referral services to members of the Clark community. The Center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the Center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. A brochure describing the Center and its services may be obtained at the Center's main offices in Room 301, Jonas Clark Hall. Strict professional confidentiality is provided for any information or records concerning anyone known to the Center.

OFFICE OF CAREER SERVICES

The Office of Career Services provides services and programs to assist students in making informed decisions regarding their career choices. The professional staff offers assistance in career and graduate school planning and in the internship and full-time job search. The following services are available:

- *Career Advisors* to meet with students who want to discuss their choice of major and/or career plans. Career advising helps students clarify their goals, preferences, skills and strengths;

- *Career Library* that contains information on career fields, employers, internships, and graduate study. Information on job search strategies, interview techniques and occupations, as well as directories, annual reports, and literature about specific employers is also available. One of the Career Library's most valuable resources is the Alumni Contact File, listing by profession over 1,000 Clark alumni—in Boston, Connecticut, New York, Washington, D.C., Chicago, and on the West Coast—willing to serve as career advisors to students;

- *Workshops* on resume writing, interview skills, and job search strategies plus a variety of panel presentations on specific career fields;

- *On-Campus Interview Program*, which hosts each year over 50 employers and representatives of graduate schools who visit Clark to interview graduating seniors;

- *Reference Files*, a service that sends students' letters of recommendation to prospective employers, graduate schools, or professional programs.

PARKING

All Clark students who plan to park their cars in University lots must be registered with Campus Police, since unregistered vehicles found in these lots will be towed at the owner's expense. On-campus parking includes the garage at the Kneller Athletic Center and the University lots at Beaver, Downing, and Charlotte Streets. These are 24-hour resources. Commuter parking is also available at Maywood Street, the Administration Building, Charlotte Street, and the English House. These lots are limited to daytime parking only. Inquire at Campus Police for information on registration procedures and fees.

It is also important to note that Massachusetts law requires that all *out-of-state students*, living either on- or off-campus, register their cars with Campus Police. There is no fee, but failure to comply carries a fine of up to \$50.

For those who plan to park on Worcester streets rather than in a University lot, please be advised that the City of Worcester strictly enforces its winter parking restrictions. To familiarize yourself with these regulations, obtain a copy of *Parking Rules and Regulations*, available in the Campus Police Office.

Athletics

Clark's sport programs are designed to stimulate interest and participation in a variety of physical activities, promote health and wellness, and encourage continuing participation throughout life.

GEORGE F. KNELLER ATHLETIC CENTER

Clark's modern athletic center houses intercollegiate, intramural, and physical education recreational programs. The center has a full-size gymnasium that seats 2,000, with three multipurpose courts for basketball, volleyball, tennis, and badminton. The court can also be used for indoor baseball, field hockey, lacrosse, running, soccer, and softball. The Kneller Athletic Center includes a six-lane, 25-yard swimming pool with one- and three-meter diving boards; four racquetball/handball courts; two squash courts; two weight rooms—one with Cybex, Universal, and Fitron equipment, the other with free weights; a training room with facilities for rehabilitation (including a whirlpool); a dance studio, plus locker rooms, offices, a lounge, and a conference room.

Clark's outdoor sports facilities include a regulation soccer field with lights, a lighted baseball field, a field hockey field, a softball field, six elasta-turf tennis courts, and space for intramural and club teams. Clark's fields are used for all intercollegiate athletic teams, as well as for intramural/recreational programs.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and well-defined and strong interest in athletic competition, Clark has 20 intercollegiate teams including baseball, basketball, crew, cross country, golf, lacrosse, soccer, swimming and diving, tennis, and track and field for men, as well as basketball, crew, cross country, field hockey, soccer, softball, swimming and diving, tennis, track and field, and volleyball for women.

Clark University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the Massachusetts Association for Intercollegiate Athletics for Women, and numerous other athletic associations. Clark is an N.C.A.A. Division III school, and more than 350 Clark student athletes typically compete against Division I, Division II, and Division III schools including: Amherst, Assumption, Bates, Bowdoin, Brandeis, Coast Guard, Colby, Connecticut College, Holy Cross, Massachusetts Institute of Technology, Middlebury, Trinity, Tufts, Wesleyan, Williams, and Worcester Polytechnic Institute.

INTRAMURAL ATHLETICS

The Department of Athletics provides opportunities for members of the Clark community to participate in men's, women's and coed intramural programs and tournaments, which emphasize team work and friendship in the spirit of competition. More than 50 percent of all Clark students participate in intramurals. Teams are formed from many different areas of the campus and include independent as well as resident hall competition.

Intramural sports include badminton, basketball, bowling, ping pong, racquetball, soccer, softball, squash, touch football, volleyball, wallyball, water polo, and whiffle ball.

PHYSICAL EDUCATION PROGRAM

Clark's voluntary physical education classes offer instruction for men and women in areas such as aerobic exercise, badminton, ballet, dance, fitness, racquetball, self-defense, squash, swimming, tennis, water polo, weight training, and yoga. Additional classes may be offered in response to student interest. Registration for physical education classes usually occurs the week following academic registration and again after the midsemester break.

RECREATION

Clark's students, faculty, and staff use the Kneller Athletic Center for recreation in a variety of sports. Clark's outdoor facilities, which include tennis courts and playing fields, are also available to the University community. Spontaneous sports activities are encouraged for departments, residence halls, graduate students, and groups of students.

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women regardless of race, color, sex, sexual orientation, religion, age as defined by law, handicap, national origin or financial condition. Selection is competitive and based primarily on academic promise as indicated by secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondarily, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.

ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; three years of mathematics; three years of science; two years of both a social science and a foreign language; and other credit electives, including the arts, recognized in the secondary school curriculum. The University is most concerned with the strength of the student's academic program and therefore recommends this framework of courses. However, the University does value diversity and understands that some students may be following different high school curricular patterns.

ADMISSION TESTS

Applicants for freshman admission in September should submit the results of the Scholastic Aptitude Test (S.A.T.) administered by the College

Entrance Examination Board no later than January. One Achievement Test is required: the English Composition Examination (preferably with essay); two others are recommended.

REGULAR ADMISSION

Candidates for freshman admission in September should initiate their applications as early as possible, usually during the first semester of the final year of secondary school, and no later than February 15. The deadline for January admission is November 15. A *nonrefundable* fee of \$40 must accompany each undergraduate application unless a waiver is being requested. Clark participates in the Common Application Program and accepts photocopies of the appropriate forms, which are available in secondary schools.

EARLY ADMISSION

Exceptional students are invited to apply for early admission when encouraged and supported by enthusiastic recommendations from their secondary schools.

EARLY DECISION

As a service to students for whom Clark is clearly first choice, Clark has established an Early Decision Program. Applications in writing for an early decision must be submitted by December 1. Decisions are announced on or about January 15. Candidates will either be offered admission or will be deferred for further consideration with regular applicants. Although this program does not preclude applications to other colleges, participation by a student does require a commitment to withdraw such applications upon notice of acceptance by Clark.

INTERNATIONAL ADMISSIONS

Foreign students attending secondary schools *within* the United States may use the standard application forms. The Test of English as a Foreign Language (TOEFL) is required of all candidates whose native or official language is not English. TOEFL results for successful applicants are usually in the 550-650 range. For information, write to TOEFL, CN 6151, Princeton, NJ 08541-6151. Those attending secondary school in the United States for less than two years need *not* submit results from the Scholastic Aptitude Test (S.A.T.), but these students *must* submit TOEFL scores if their native language is not English. Financial aid for foreign students is limited and is based on completion of a Foreign Student Financial Aid Form. Those at secondary schools in the United States under a student visa will need another visa for university study. *The Certificate of Eligibility (I-20)*, necessary to obtain a student visa, will be granted only after full admission and a receipt of a *Certification of Finances* signed by a bank official.

NOTIFICATION OF ADMISSION AND DEPOSITS

Regular notification of admissions decisions for September freshmen

occurs on or about April 1, and Clark subscribes to the Candidates' Reply Date, May 1. For students planning to live on campus, a nonrefundable admission deposit of \$100 and a housing deposit of \$100 are required to indicate acceptance of an offer of undergraduate admission. For students planning to live off campus, only the \$100 admission deposit is required. Deposits are credited toward charges for the first semester in attendance at Clark.

DEFERRED ADMISSION

Students who want to postpone enrollment need to submit a request in writing by the assigned reply deadline. Students who undertake academic work in the interim may not defer enrollment but must reactivate their applications by submitting official transcripts for review.

ADVANCED PLACEMENT/STANDING

Placement in advanced courses is determined by individual performance on departmental examinations, which may be oral or written, or on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. In addition, each score of 4 or 5 on an A.P. test will be credited with a value of one course-unit at Clark. Advanced standing may also be earned by transfer; presentation of an official transcript of college-level course work already completed is required. A maximum of one semester's credit (4 units) may be assigned to freshmen enrolling with advanced standing.

TRANSFER CREDIT

Normally, credit is given for academic courses in the liberal arts previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at nonaccredited institutions is granted on a provisional basis, to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than C-minus.

Evaluation of credits for college courses completed elsewhere is made at the time of admission or upon receipt of final transcripts and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 percent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally a minimum of two academic years at Clark is necessary for completion of degree requirements. Matriculated students should refer to the section on residency requirements.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and four-year institutions. The majority of students admitted enter at the junior level, although many transfer to Clark with sophomore and advanced freshman standing.

Of special interest to transfer candidates are the University's B.A./M.A. program options in the Environment, Technology and Society (ETS)

Program and in the Program for International Development and Social Change. The application deadline for all transfer candidates is April 15 (November 15 for places available at midyear).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work—secondary level and beyond—including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee, such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

CAMPUS VISITS AND INTERVIEWS

Prospective students are encouraged to visit the campus and are invited to write or call the Admissions Office (508-793-7431) for details. Both on- and off-campus interviews are available by appointment. Interviews are given by members of the admission staff, faculty, or alumni. Interviews are not an admission requirement.

Undergraduate Financial Assistance

The Office of Financial Assistance and Student Employment provides guidance to Clark students applying for financial aid and to those interested in student employment.

STUDENT EMPLOYMENT

Student employment opportunities at Clark include on-campus and off-campus part-time jobs and full-time summer employment, coordinated by the Office of Financial Assistance and Student Employment. At the beginning of each semester, Clark students with college work-study awards receive a listing of available on-campus jobs and may choose a job best suited to their abilities and interests. The Student Employment Office also maintains a list of on- and off-campus jobs available to students not receiving college work-study awards. The average number of hours worked each week is between 10 and 12 hours.

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance. Special talent in music, art, and other areas, as well as leadership ability, also are considered. Aid is packaged—i.e., a combination of scholarships, grants, loans, and/or part-time employment. The Office of Financial Assistance and Student Employment assesses each student's financial circumstances and need through a uniform analysis of the Financial Aid Form (FAF), and adjustments are made in accordance with University policies and procedures. The assessment takes into account

family income and assets, age of parents, financial commitments to other dependents and members of the family, and other special circumstances.

The University expects that a student's resources for education will come first from family and his/her own savings and earnings. The University will make every effort to assist the student in obtaining the difference between the total cost and expected family resources. No student should fail to apply for admission to Clark University because of the inability of his/her family to pay total educational costs.

INDEPENDENT SOURCES OF AID

All applicants for financial aid are urged to pursue independent sources of financial aid. Clark cannot replace outside funds for which a student is eligible but fails to apply. Scholarships are often awarded to graduating seniors by high schools and/or private scholarship agencies in students' local communities. Additional information usually is available in guidance offices.

Applicants who are residents of Massachusetts are expected to apply for a *State Scholarship*. To apply, students must complete state Financial Aid Forms (FAF), which may be obtained from guidance counselors or financial aid offices. Residents of other states should investigate the possibility of using reciprocal state scholarships (i.e., CT, DC, MD, ME, NH, PA, RI, VT).

An important source of federal financial assistance is offered in the form of *Pell Grants*. These grants, which vary in amounts up to \$2,300 per year, are available to students who demonstrate financial need according to federal regulations. All applicants for financial aid are required to apply for a Pell Grant. Students may apply for a Pell Grant by checking the appropriate item on the FAF.

Stafford Loans are available to many families through banks and credit unions currently at an 8 percent interest rate; payment begins after the student leaves school. All families who apply must file the Financial Aid Form (FAF) and demonstrate need. This program allows students to borrow up to \$2,625 during the first and second year of college and up to \$4,000 per year starting the third year.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting the local Veterans Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

AID AWARDED BY CLARK UNIVERSITY

Clark University makes a commitment to entering students during their freshman year and in each subsequent year at Clark, as long as they continue to demonstrate financial need, continue to meet the standards of satisfactory academic progress, have filed all necessary application materials by the required deadlines, and have not exceeded program limitations of financial aid, and as long as Federal and State funding to Clark's Office of Financial Assistance and Student Employment continues at the same

level. Although any Clark student may apply for aid as an upperclassman, funding is guaranteed only to those students who received aid their first year at Clark and have met the above requirements.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and/or employment from the following sources:

Alumni and Friends Scholarships—a portion of the University income is reserved for this purpose; and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants—part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support of this fund is contingent upon annual congressional allocations.

Perkins' Loans—long-term loans that bear no interest until nine months after a student ceases to be at least a half-time student at an institution of higher education. At that time, interest begins to accrue at the annual rate of 5 percent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least \$30 per month principal over an extended repayment schedule of up to ten years. Continued support is contingent upon annual congressional allocations.

College Work-Study—a federally subsidized work program, administered by Clark. The program allows eligible students the opportunity to work on campus to earn money for personal expenses, travel, books, and supplies.

ENDOWED SCHOLARSHIPS

Most grants awarded by the University are designated Alumni and Friends Scholarships. Funds for these scholarships are derived from named endowed funds. (Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.)

The Lambi ('33) and Sarah Adams Endowed Scholarship Fund

The Reginald Bryant Allen Fund

The Alumni Group Scholarship

The Alton Anderson ('31) Endowed Scholarship Fund

The Association of Colored Peoples Scholarship Fund

The Richard Barnes ('71) Memorial Scholarship Fund

The William H. Blake ('15) Scholarship Fund

The B'nai B'rith Scholarship

The Richard L. Boffoly ('52) Endowed Scholarship Fund

The Stella Malkasian Boy Scholarship Fund

The Haven D. Brackett Student Aid Fund

The Gertrude and William Brodie ('24) Award

The Charles W. and Annie L. Bruninghaus Fund

The Reina and Isadore Chaiklin Scholarship Fund

The Clark University Faculty Women's Club Scholarships

The Gloria Woolson Cockburn ('50) Memorial Scholarship Fund

The Cohn ('35)-Anderson Memorial Fund

The Celia Daspin Memorial Scholarship Fund

The Geraldine Park Deeks Endowed Scholarship Fund

The Depaul ('68)-Cunningham ('68) Student Loan Fund
 The H. Allan Dickie (AB '12; AM '14) Endowed Scholarship Fund
 The Gladys Gunderson Diliberto Fund
 The Ruth and Loring Dodd Scholarship Fund
 The Thomas J. Dolphin Scholarship Fund
 The Theodore T. and Mary E. Ellis Fund
 The Albert C. Erickson (AB '30; AM '31; PhD '34) Scholarship
 The Eleanor S. Erickson ('58) and Richard A. Hanson ('58) Endowed
 Scholarship Fund
 The Mitry Massoud Farrah Endowed Scholarship Fund
 The Leon E. Felton ('07) Memorial Scholarship Fund
 The A.D. Ross Fraser ('22) Scholarship
 The Julian S. Freeman Memorial Scholarship Fund
 The Aaron Fuchs Memorial Scholarship Fund
 The Lillian and Selig Glick Scholarship Fund
 The Leo A. Goldblatt (AB '25; AM '26) Endowed Scholarship Fund
 The Paul S. Goldman ('70) Memorial Scholarship
 The Wallace W. Greenwood Scholarship Fund
 The Madeline T. and Winthrop G. Hall International Fellowship
 The Bertram L. and Bessie T. Handleman Fund
 The Frank H. Hankins Scholarship
 The High School Basketball Tournament Scholarship
 The Lennard A. Hill ('57) Memorial Scholarship Fund
 The Gertrude and Eva Hillman Scholarship
 The Frances Tufts Hoar Fund
 The Ruth G. Hodgkins Scholarship Fund
 The Drs. Burton P. ('57) and Herbert H. Hoffner ('55) Endowed
 Scholarship Fund
 The Frederic W. Howe Jr. Scholarship Fund
 The Ann P. Hubbard ('73) Memorial Scholarship Fund
 The Gordon A. Hubley ('21) Fund
 The M. Hazel Hughes ('44) Scholarship
 The Lillie May and Raymond S. Huntington Scholarship Fund
 The Jean E. and Theodore H. Hurwitz Scholarship Fund
 The Howard Bonar Jefferson Endowed Scholarship Fund
 The George N. Jeppson Scholarship Fund
 The Johnson-McLean ('54) Scholarship Fund
 The Kappa Phi Scholarship Fund
 The Ella O. Keene ('37) Scholarship Fund
 The George F. Kneller ('29) Scholarship Fund
 The Levi Knowlton Fund
 The Dr. Edmund Randolph Laine Scholarship Fund
 The David Ashley Leavitt ('57) Memorial Scholarship Fund
 The Joseph Leavitt ('17) Scholarship Fund
 The Dwight E. Lee Scholarship Fund
 The Elizabeth T. Little Scholarship Fund for Women
 The Homer Payson Little Scholarship in Geology
 The Livermore and Ambulance Drivers Scholarship
 The Robert H. Loomis ('11) Scholarship

The Lieutenant Louis J. Luvisi Jr. ('79) Scholarship Fund
 The Chester W. Malmstead ('32) Loan Fund
 The Joshua Morrison ('21) Scholarship Fund
 The Nazareth Nanigian and Manasseh Nanigian Memorial Scholarship Fund
 The Alice Friend Newton Memorial Scholarship
 The Norton Company Scholarship
 The Nunnemacher Endowment Fund
 The Gerim M. Panarity ('26) Scholarship Fund
 The Abraham S. Persky Scholarship Fund
 The Joseph Persky Scholarship Fund
 The Mary E. and Irene L. Piper Scholarships
 The Gerard Pomerat ('36) Scholarship Fund
 The Charles B. Randolph Fund
 The Helen Brewster Randolph Memorial Scholarship
 The Jennie L. Richardson Scholarship
 The William Richardson Scholarship
 The Eunice and C. Jack Rosemark ('39) Endowed Scholarship Fund
 The Ilse Rothschild Endowed Scholarship Fund
 The Elliott Stephan Sahagian ('67) Scholarship Fund
 The Sanford Memorial Scholarship
 The Lillian and Samuel Schanberg Memorial Scholarship Fund
 The Fredric T. Sewall ('65) Scholarship Fund
 The Dr. David M. Shor ('24) Memorial Scholarship Fund
 The Jacob L. Shor Memorial Scholarship Fund
 The Henry L. Signor ('21) Scholarship
 The Abraham Solomon ('36) Scholarship Fund
 The Harry D. ('30) and Anita Solomon Endowed Scholarship Fund
 The Carl J. ('43) and Virginia Hamel ('46) Stringer Endowed Scholarship Fund
 The Saul Reuben Stein Student Loan Fund
 The William T. ('37) and Barbara H. Stimson Scholarship Fund
 The Berge Tashjian ('34) Scholarship Fund
 The Russell S. Thompson ('18) Scholarship Fund
 The Michael Thomas Tucker ('76) Memorial Scholarship Fund
 The Undergraduate Scholarship Fund
 The Benjamin R. and Grace F. Vanderford Student Aid Fund
 The Myron S. Waks Endowed Scholarship Fund
 The Robert H. Wetzel Memorial Scholarship Fund
 The Henry A. Willis Scholarship
 The Harold C. Wingate ('05) Memorial Scholarship Fund
 The George M. ('27) and Bee Wolfe Scholarship Fund

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid form (FAF) to the College Scholarship Service by February 15 and direct that a copy be forwarded to Clark University. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial

assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. Each recipient is required to verify the information reported on the FAF by filing a copy of the parents' and student's most recent federal income tax return form. Early decision candidates should file an Early Version FAF by December 15. This form will be sent to those who indicate on their admissions applications they will be applying for aid.

Prospective transfer students who are requesting financial assistance should submit the FAF to the College Scholarship Service at the same time application is made for admission. Each transfer student must submit a signed copy of the parents' and student's latest federal income tax return to the Office of Financial Assistance and Student Employment and request a Financial Aid Transcript from all colleges that the student previously attended. Award notification will be made after acceptance to the University. Applicants will not be required to post an admission deposit before receiving a financial aid decision. Awards are made as funds allow.

Upperclass students must reapply annually for financial assistance by submitting an updated FAF to the College Scholarship Service and an Application for Upperclass Students to the Office of Financial Assistance and Student Employment by March 1. In addition, a signed copy of the parents' and student's previous year's federal income tax return form must be filed with the Office of Financial Assistance and Student Employment by the filing deadline. Clark financial assistance is renewed as long as the applicant meets the requirements described in the first paragraph of this section.

Any new student interested in financial assistance should request from the Admissions Office a copy of the Clark University Financial Aid Guide, which contains all pertinent financial aid information.

The Graduate School

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid form (FAF) to the College Scholarship Service by February 15 and direct that a copy be forwarded to Clark University. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. Each recipient is required to verify the information reported on the FAF by filing a copy of the parents' and student's most recent federal income tax return form. Early decision candidates should file an Early Version FAF by December 15. This form will be sent to those who indicate on their admissions applications they will be applying for aid.

Prospective transfer students who are requesting financial assistance should submit the FAF to the College Scholarship Service at the same time application is made for admission. Each transfer student must submit a signed copy of the parents' and student's latest federal income tax return to the Office of Financial Assistance and Student Employment and request a Financial Aid Transcript from all colleges that the student previously attended. Award notification will be made after acceptance to the University. Applicants will not be required to post an admission deposit before receiving a financial aid decision. Awards are made as funds allow.

Upperclass students must reapply annually for financial assistance by submitting an updated FAF to the College Scholarship Service and an Application for Upperclass Students to the Office of Financial Assistance and Student Employment by March 1. In addition, a signed copy of the parents' and student's previous year's federal income tax return form must be filed with the Office of Financial Assistance and Student Employment by the filing deadline. Clark financial assistance is renewed as long as the applicant meets the requirements described in the first paragraph of this section.

Any new student interested in financial assistance should request from the Admissions Office a copy of the Clark University Financial Aid Guide, which contains all pertinent financial aid information.

GENERAL INFORMATION

Founded in 1887, Clark was the second graduate school in America (after Johns Hopkins). Over the years, Clark's graduate school has trained leading scholars and practitioners in a wide array of fields. It also has been at the center of major research breakthroughs in disciplines as diverse as physics, geography, and psychology.

Clark offers graduate programs leading to doctoral and master's degrees. Admission to Clark's graduate programs is open to holders of the bachelor's degree or its equivalent, and is determined on a competitive basis. All programs are administered by the Graduate Board. Completion

of a master's degree program generally requires one or two years of study, and completion of the Ph.D. requires at least four years of study, although requirements vary across departments.

Doctor of philosophy degrees are offered in biology, the biomedical sciences, chemistry, economics, geography, history, physics, and psychology. Doctoral students in the biomedical sciences and in psychology may also enroll in courses given cooperatively with the University of Massachusetts Medical School, the Worcester Foundation for Experimental Biology, and Worcester Polytechnic Institute. Doctor of education degrees in special education and in educational management are offered by the Department of Education. Also offered is the individually designed interdisciplinary Ph.D. program, which is designed by the student and a faculty committee.

Master of arts degrees are offered in the fields of biology, chemistry, education, English, geography, history, international development, physics, psychology, and the interdisciplinary Program for Environment Technology and Society. The master of business administration degree is offered by the Graduate School of Management, and the master of health administration is offered by the Graduate School of Management in conjunction with the University of Massachusetts Medical School. Through the College of Professional and Continuing Education (COPACE), Clark also offers the master of public administration and the master of arts in liberal arts degrees.

Departments that do not, at present, accept candidates for graduate degrees may offer courses suitable for inclusion in a program of graduate study. Programs crossing departmental lines are also available, as noted above, through the University's individually designed Ph.D. program. In addition, postdoctoral training is conducted in geography, psychology, and the natural sciences.

There is a wide variety of financial support available for incoming graduate students. Most departments offer teaching assistantships, fellowships, and research assistantships. Often these come with a stipend as well as tuition grants. Some specific examples of fellowship awards are listed at the end of this section. Additional information about departments and their offerings may be found in the section entitled *Departments and Courses*.

INQUIRIES

Inquiries from both U.S. and international students concerning specific programs of graduate and postdoctoral work should be addressed to the chair of the department or program concerned. Please check catalog section, *Departments and Courses*, for names of department chairs and program directors.

ADMISSION TO GRADUATE SCHOOL PROGRAMS

Admission to the Graduate School may be granted *only* by the dean of Graduate Studies and Research acting for the Graduate Board on the recommendation of a department or program of the University. Formal notification is by official letter from the graduate dean. *Application:*

Applicants should communicate with the appropriate department or program head. The applicant will be provided with an application form, which, accompanied by a \$35 application fee, should be returned to the department or program. In addition, the applicant should arrange for the forwarding of an official transcript of all undergraduate and any subsequent academic work and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to submit their scores on the Graduate Record Examination verbal, quantitative, and advanced tests. Applicants to the Graduate School of Management programs (master of business administration or master of health administration) are required to take GMAT rather than GRE examinations.

In addition to an application and \$35 fee, a foreign student should provide a certified English translation of the official transcript, evidence of English proficiency (TOEFL), at least three letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Application Deadlines:

Psychology:	January 30 for forthcoming fall
Management:	One month prior to each semester (July 31, November 30, March 31)
All others:	February 15 for forthcoming fall

Application materials cannot be returned. A *Financial Aid Form* must be submitted through the College Scholarship Service before awards can be made.

Admission: Admission to the Graduate School is valid for a specified time only and lapses after that period. If a student is admitted while still a candidate for a degree from another institution, an updated transcript noting the conferring of that degree must be sent directly to the Dean of Graduate Studies and Research.

Part-time Admission: Part-time graduate study is possible in some departments; see section entitled *Departments and Courses*.

Special Graduate Students: Admission as a special graduate student (nondegree candidate) is a simple enrollment process handled through the Registrar's Office. The grading system for these students is: A-F (with plus and minus) or Pass/Fail.

MASTER OF ARTS

Residency: An academic year (eight semester-courses) of study in residence is a minimum requirement for a master's degree. Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special requirements are included in the department listings in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the dean of Graduate Studies and Research not later than the first week of the last full semester the student expects to spend in residence as a candidate for a degree. Forms are obtainable at the Graduate School Office. Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of master of arts is valid for three years after admission to candidacy. Candidacy may be renewed once, for satisfactory reasons, for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester-courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the dean of Graduate Studies and Research upon recommendation of the department.

Each candidate must pass such written examinations as are required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. Regulations for submission of theses and degrees are available from the department and the Graduate School Office.

Graduation Fee: The fee for the master of arts degree is \$100. This covers the cost of the diploma, publication of the precis in *Dissertations and Theses*, and binding of the library copy. It is payable when the thesis is deposited with the format advisor. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due to the University format advisor.

Alternative Program: A candidate for the degree of master of arts may be recommended for the degree without a thesis after passing a preliminary doctoral examination.

Nonresident Students: Continuing students who are not registered for courses at Clark are required to pay a nonresident fee of \$200 per semester to maintain active status. If fees are unpaid, the student will be dropped from the degree program. (Fees double upon renewal of candidacy.) For information on nonresident loan deferment status, see the *Graduate Tuition* section.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of master of arts. A teacher certification sequence may be completed in conjunction with the master's program.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research seminar in which an independent major paper is prepared and presented to fellow students and faculty.

Further information concerning the degree of master of arts in education may be found under the *Department of Education* section.

MASTER OF ARTS IN LIBERAL ARTS

The Clark University Master of Arts in Liberal Arts (MALA) is an interdisciplinary self-designed degree. The MALA emphasizes the application of a variety of critical perspectives to cultural studies. Our program is grounded in the distinctive strengths and commitments of Clark University: interdisciplinary and international research and teaching; the development of innovative approaches in academic domains; the application of theory, acquired knowledge, and techniques to issues in both the regional and global contexts.

The MALA degree program is designed for students wishing to pursue liberal arts education at the graduate level—students who have a commitment to academic study that acknowledges the limitations inherent in conventional divisions of academic disciplines.

For further information, contact the college of Professional and Continuing Education.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Graduate School of Management. For further information, see listings under the *Management* section.

MASTER OF HEALTH ADMINISTRATION

This degree is offered through the Graduate School of Management in conjunction with the University of Massachusetts Medical School, Worcester. For further information, see listings under the *Management* section.

MASTER OF PUBLIC ADMINISTRATION

The Master of Public Administration Program is designed to strengthen and advance the managerial and analytical skills of midcareer managers and executives in public organizations and nonprofit institutions. The goal of the program is to foster administrators who are capable of addressing the managerial, economic, and political aspects of public issues and problems.

A joint program of the College of Professional and Continuing Education and the Department of Government, the MPA program also seeks to assist those in other professions to make the transition into the administration of governmental, nonprofit, educational, or other public institutions.

For further information, contact the College of Professional and Continuing Education.

CERTIFICATE PROGRAMS

The University offers three postgraduate certificate programs: the Advanced Certificate in Gerontology, the Certificate in the Teaching of English as a Second Language, and the Certificate in Public Administration.

For further information, contact the College of Professional and Continuing Education.

CERTIFICATE OF ADVANCED GRADUATE STUDY (CAGS)

Clark University, through the College of Professional and Continuing Education, offers a Certificate of Advanced Graduate Study (CAGS) in Interdisciplinary Studies, designed for regional teachers, administrators, and other professionals. The program is open to those already holding a master's degree. Although increased specialization in a student's particular area is possible through the chosen concentration track, the Clark Interdisciplinary Studies CAGS, unlike traditional CAGS offered elsewhere, attempts to foster breadth beyond a discipline. Courses are chosen from several disciplines; the student's focus is interdisciplinary, incorporating and transcending established domains of study.

For further information, contact the College of Professional and Continuing Education.

DOCTOR OF EDUCATION

The program leading to the doctor of education emphasizes human development, learning, and the social context of education as they relate to curriculum, instruction, evaluation, and the management of educational programs and institutions. The requirements for this degree closely parallel those for the degree of doctor of philosophy (see below). See catalog section on *Department of Education* for further information.

DOCTOR OF PHILOSOPHY IN BIOMEDICAL SCIENCES

The Biomedical Sciences Ph.D. Program began in 1975 with the recognition that certain individuals without a standard academic background, but with previous research experience and an outstanding aptitude for independent research, may benefit from a relatively unstructured program leading to the Ph.D. degree. This is a cooperative program involving Clark University, the University of Massachusetts Medical School, Worcester Foundation for Experimental Biology, and Worcester Polytechnic Institute. It utilizes the faculty, facilities, and varied research interests in the biomedically related sciences in the Worcester area. The primary criteria for admission are research ability and potential, and evaluation of applicants is based largely on evidence of their previously performed research. Award of the Ph.D. requires passing of a preliminary examination and presentation and defense of a research thesis. Competence in the major field in preparation for the preliminary examination can be achieved through independent study, directed study, or formal courses. The Ph.D. degree may be awarded by either Clark University or Worcester Polytechnic Institute, although dissertation research may be done at any of the participating institutions under the sponsorship of a faculty member from that institution. Areas for conducting of dissertation research reflect

the varied research programs of faculty from the participating institutions. These include, but are not limited to: cellular and molecular biology; cell senescence; metabolism, endocrinology, and immunology; pharmacology and experimental pathology; reproductive biology, physiology, neurobiology, and behavioral science; biological engineering, related to nitrogen fixation and development of new symbiotic systems with blue-green algae; bio-mass and bio-energy (silviculture and fermentation technologies).

Admission: The primary criterion used in selection of students for this program is the demonstrated capacity of the applicant to do independent research. In addition to the application form, applicants submit official transcripts of undergraduate and graduate work, Graduate Record Examination (GRE) scores, three letters of reference, and evidence of outstanding research ability (e.g., publications, abstracts, etc.). More complete information may be obtained from the program director.

Applications and all supporting documents should be submitted to Dr. Joseph Bagshaw, Department of Biology and Biotechnology, Worcester Polytechnic Institute, 100 Institute Road, Worcester, MA 01609.

DOCTOR OF PHILOSOPHY

Only well-qualified candidates with proven ability in their special fields of study will be encouraged to proceed to the degree of doctor of philosophy.

Residence: The minimum requirement is one year of full-time study (eight semester-courses) beyond the M.A. or its equivalent in part-time work, in residence.

If the degree of master of arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language or related requirements as the student's field of research may demand and must report such requirements in each case to the dean of Graduate Studies and Research. If a language is required, either a testing service or on-campus tests are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chair of the department may invite other scholars from within or outside the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work or its equivalent in part-time work, including at least one year at Clark University, (2) completed the departmental requirements in a foreign language, (3) passed a preliminary examination in the chosen field of study, (4) obtained the written endorsement of the major department. Application forms can be obtained from the Graduate School Office.

Candidacy for the degree of doctor of philosophy is valid for three years after admission to candidacy. Candidacy may be renewed once, for satisfactory reasons, for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to a specialized field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is presented to the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 350 words, and a precis, not exceeding 75 words, both approved by the dissertation advisors, are also required.

Four weeks before the degree is to be conferred, a presentation-quality copy of the dissertation, together with two official title pages, an academic history, an abstract and a precis, must be delivered to the University format advisor. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis, and academic history forms can be obtained from the format advisor. The presentation-quality copy of the dissertation must be typed or computer-printed as prescribed in *Format Regulations for Theses, Dissertations, and Research Papers* and *Suggestions for the Preparation of Doctoral Dissertations for Microfilming*. These instructions are available from the format advisor.

The dissertation and abstract become part of the permanent collection in the University library. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Michigan, and is available for duplication on request to that company. The abstract is printed in *Dissertation Abstracts*; the precis is printed by Clark in *Dissertations and Theses*.

Articles published in referred journals may be accepted in lieu of a dissertation with the approval of the department and the graduate dean. Requests for approval should include statements that attest to the originality and significance of the study.

Final Examination: An oral examination lasting at least two hours is required. Additional written examinations may be required if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire specialized field of study. The oral examination is conducted by a committee of at least four members, composed of at least one member of the Graduate Board and such members of the department and nonmembers from within or outside the University as the chair may appoint. The chair notifies the dean of Graduate Studies and Research, at least one week in advance, of the time and place of the examination and the composition of the committee. The dean is authorized to invite any person from within or outside the University to be present and to assist in the examination.

Graduation/ Diploma Fee: The fee for the doctor of philosophy degree is \$150. It covers the cost of the diploma, hood, publication of the precis in the publication *Dissertations and Theses*, publication of the abstract in *Dissertation Abstracts*, and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the University format advisor.

Nonresident Students: Continuing students who are not registered for

courses at Clark are required to pay a nonresident fee of \$200 per semester to maintain active status. If fees are unpaid, the student will be dropped from the degree program. (Fees double upon renewal of candidacy.) For information on nonresident loan deferment status see *Graduate Tuition* section.

POSTDOCTORAL STUDY

Postdoctoral students are classified in two categories. *Research Associates*, who work full time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and *Postdoctoral Fellows*, who enroll in a formally offered postdoctoral training program.

Graduate Academic Regulations

GRADING

The grades of A and B (with plus and minus) are acceptable for graduate credit; anything lower than a B- is not acceptable. A Pass/Fail grading option is possible, where "P" (pass) signifies that the student has performed at a B- or above level. Incompletes are awarded at the discretion of the instructor.

HOUSING

A limited number of on-campus housing spaces are available through the Office of Housing and Residential Programs. Incoming students have priority for this housing. Further details may be obtained from the Office of Housing and Residential Programs, or your academic department.

Off-campus rooms and apartments for both men and women are available in the immediate area of the University. A limited listing of current housing opportunities is compiled by the Office of Housing and Residential Programs. Students without prior arrangement for University-owned housing are urged to arrive before registration to seek suitable housing in the area.

MEAL PLANS

Graduate students are invited to participate in one of the meal plans offered by University Dining Services.

HEALTH INSURANCE

As mandated by Massachusetts law, all full-time and part-time students must be enrolled in a qualifying student health insurance plan offered by the University or in another health insurance plan with comparable coverage. Failure to submit proof of comparable coverage will result in the student being automatically enrolled in the Clark plan and charged accordingly. In order for the University to be in compliance with state law, students may not register for classes until they are enrolled in an insurance plan.

HEALTH SERVICE

Graduate students who wish to use the on-campus Health Service may do so by paying the health fee each semester at the Cashier's Office. At that time, they will receive a receipt from the Cashier to be presented at the Health Service Office and thus will be eligible to use the on-campus services. For a description of the Clark University Health Service, see the listing under *Student Services* of the undergraduate college.

Graduate Tuition and Other Charges

ACADEMIC YEAR 1990-91

Full-time Graduate Students:

Tuition: \$14,000 per academic year (or \$7,000 per semester)

In departments that define a full load as four courses per semester, the per-course charge is \$1,750. The per-course charge varies in some departments according to their specific definition of a full program. Students should contact their department chairs to find out which scale applies.

Part-time Graduate Students:

Tuition is charged on a per-course basis according to the scale used in the student's department (generally, \$1,750 per course).

Special Graduate Students: (nondegree candidates)

Tuition: \$1,750 per course

Tuition and fees differ in the following programs:

Master of Business Administration

Master of Health Administration

Contact the Graduate School of Management for further details.

Master of Arts in Liberal Arts

Master of Public Administration

Contact the College of Continuing and Professional Education for further details.

OTHER FEES

Health Insurance—payable at registration (mandatory)

Single Students (estimated) \$365

Student/one eligible dependent \$730

Student/two or more eligible dependents \$1,095

Health Service Fee (optional) \$200

Graduation Fee—payable at the time the thesis or dissertation is deposited with the Registrar.

Master's Degrees	\$100
Doctoral Degrees	\$150

Students who do not write a thesis or dissertation, including those receiving the degree through an alternative program, must pay this fee no later than the date on which theses are due to the University format advisor (generally, April 15).

Nonresident Fee \$400

Payable November 1 and March 1: \$200 per semester. All degree candidates who are not formally enrolled in coursework must pay the nonresident fee each semester until the final copy of the thesis or dissertation is approved by the University format advisor. If these fees are not paid by the close of the fiscal year, the student will be dropped from the program. (Fees double upon renewal of candidacy.)

Loan Deferment for Nonresident Students:

Nonresident graduate students who are completing their thesis or dissertation on a *half-time* basis are limited to two years of student deferment status on their college loans. Nonresidents completing their thesis or dissertation on a *full-time* basis are limited to *one year* of student deferment status.

Billing Policy:

Tuition and fees are due within 30 days of date of issuance of invoice. Accounts that extend beyond the 30-day period are assessed interest at the rate of 1.25 percent per month (annual rate of 15 percent).

Late Registration Fee: \$25

A late fee of \$25 is charged if registration is not completed by the end of the first week of the semester.

Refund:

Withdrawal from the University requires formal notice, *in writing*, to the dean of Graduate Studies and Research. A refund will be made according to the date the dean receives the withdrawal notice. No refunds are made upon withdrawal from a course or courses, only upon withdrawal from the University. Refunds are as follows:

Prior to the start of classes:	100%
First week of classes:	80%
Second week of classes:	60%
Third week of classes:	40%
Fourth week of classes:	20%
After fourth week of classes:	0%

There is no refund on other charges, except board, when a student withdraws from the University.

FINANCIAL AID

U.S. citizen or eligible non-citizen applicants for admission who request financial aid are required to file a Financial Aid Form with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Allocation of financial aid is not only based on an evaluation of the student's need.

GRADUATE SCHOLARSHIPS, FELLOWSHIPS AND ASSISTANTSHIPS

Graduate fellowships and scholarships are provided for well-qualified students by the University from endowed funds and from other sources. Financial aid to graduate students also is available in the form of grants from a number of special funds and, in some departments, from sponsored research grants. A limited amount of part-time employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chair of the department or director of the program in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the dean of Graduate Studies and Research for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

Teaching assistants are assigned a variety of duties according to the needs of the department. Responsibilities include conducting discussion sessions, supervising laboratory sections, holding tutorial sessions, and grading papers and projects. Assistantships typically involve a commitment of approximately half time (an average of 17 1/2 hours a week). Tuition is remitted, and a usual stipend is awarded of \$7,100 to \$8,600, depending on program or department, for eight months.

Note that the departments of biology, chemistry, economics, English, geography, history, physics, and psychology require teaching experience for graduate degrees.

ASSISTANTSHIPS

Assistantships are available in several departments. Assistantships involve a variety of services, including research with appropriate stipends, and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provided by:

The Alumni Association Fund

The Association of Colored Peoples Memorial Scholarship Fund

The George S. Barton Fund

The Lise Anne and Leo E. Beavers II Endowed Fellowship Fund

The Elnora W. Curtis Fund

The Eliza D. Dodge Fund

The H. Donaldson Jordon Award in History

Dr. Herman W. Dorn Endowed Memorial Graduate Fellowship Fund

The Joseph F. Donnelly Memorial Fund

The John White Field Fund

The Austin S. Garver Fund

Graduate School Scholarship Fund

The George Frisbie Hoar Fund

The M. Howard and Frances Freedman Jacobson Graduate Fellowship Fund

The Ella O. Keene Scholarship Fund

The Walter W. (AM '20, Ph.D. '21) and Phyllis B. (AM '18, Ph.D. '19) Lucasse Graduate Fellowship Fund

The Myers Fund

The David J. Ott Scholarship

The Charles H. Thurber Fund

For further information about these funds, contact the Graduate School Office.

GRADUATE LOANS

Loans, charging interest at ten percent per year after completion of residency, are available on a limited basis for full-time graduate students upon registration. Applications are available at the Office of Financial Assistance.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund

The Mary M. Thurber Fund

The United States Steel Foundation Fund

For loans from these and other sources that may become available, application should be made at the Office of Financial Assistance.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income from this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The James ('39) and Ada Bickman Summer Science Internships for Undergraduates. The income from this fund supports summer research through internships for undergraduate students majoring in the biological and physical sciences. Awards are made to students in their junior year.

The Chester Bland Fund. The income from this fund preferably is used to provide aid to a promising student, either in residence or engaged in research elsewhere, under the direction of the Department of History. It also may be used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income (only) is to be divided between the Departments of Physics and Chemistry and is to be used for any purpose within the scope of these two departments.

The G. Stanley Hall Foundation Fund. The income is to be used for research in genetic psychology.

The Frances L. Hiatt Fellowship in Psychology. One fellowship offered each year to an outstanding new student (renewable for up to two additional years).

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War I. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in physical geography and to aid the department in that field.

The James A. Maxwell Fund. The income is used to support a graduate fellowship in the Department of Economics.

The Clara A. Mayo Memorial Fund, established by Joseph A. Weiss in memory of his daughter Clara A. Mayo (Ph.D. 1959). The fund is to be used to provide assistance to women graduate students in the Psychology Department.

The Nunnemacher Endowment Fund, established by Dr. Rudolph F. Nunnemacher, Professor of Zoology, 1939-1983. Interest accruing from this fund is to be used to defray tuition or laboratory fees for Clark University students attending summer courses in marine biology or pursuing research at the Bermuda Biological Station for Research, Inc.

The Robert H. ('42) and Virginia N. Scotland Endowed Fund. The income from this fund is to be used by either the History Department or the Program in International Relations of the Government Department for any purpose within the scope of these programs.

Departments and Courses

American Studies

PARTICIPATING FACULTY

Sarah J. Deutsch, Ph.D., *program director*: American social history, American women

John C. Blydenburgh, Ph.D.: elections, polling, national politics

Martyn J. Bowden, Ph.D.: cultural humanistic and historical urban social geography

James P. Elliott, Ph.D.: American literature, contemporary narratives, literature and film, editing

Richard B. Ford, Ph.D.: African history, resource management, international development

Bonnie Lee Grad, Ph.D.: nineteenth- and twentieth-century art

Douglas L. Johnson, Ph.D.: cultural ecology, arid lands management

William A. Koelsch, Ph.D.: history of geography, environmental history

Sharon Krefetz, Ph.D.: urban politics, suburban politics, women and politics

Robert J. Ross, Ph.D.: urban studies, political sociology, political economy, social policy

Maren E. Stange, Ph.D.: communication, American culture

Shelly Tenenbaum, Ph.D.: Judaic studies, race/ethnicity, social stratification

AMERICAN STUDIES CONCENTRATION

The American Studies Program at Clark is neither a department nor a major but a *concentration* of seven required courses designed both as an extension of traditional majors and as a coherent undertaking in itself.

Concentration in the American Studies Program offers an interdisciplinary approach to the study of those human values that define American culture and variously manifest themselves in physical, social, and intellectual environments—in events, in institutions, and in the arts (primarily literature, painting, film, and architecture). The concentration has two aims. One is to enable students to analyze closely a variety of “texts” (a group of people, a house, a poem) and to place these in a cultural “context,” that brings them into relation with each other. The other is to enable students to arrive at an understanding of American culture as a pattern of values that permeates American space and changes over time.

Since this course of study is not in itself a discipline but rather a conversation between disciplines, the concentration is based on a conviction that the basis of this conversation is fluency in—or at least acquaintance with—traditional disciplines in the humanities and the social sciences. Students are therefore expected to augment their major discipline with introductory work in two other disciplines. They are further expected to integrate and focus their study of American culture in the program offerings. Finally, they are encouraged to study, beyond the introductory level, topics of interest in the more than thirty courses on American subjects offered at Clark and at affiliated institutions.

Students concentrating in American studies are required to take:

1. three core courses and two other introductory courses to be chosen in consultation with an advisor.
2. four courses in either an American history/literature or an American history/geography sequence. Students interested in the American history/literature sequence would elect two of the following history courses: 200, 201, 202, 206, 208, 209, 219, or 221; and English 169 and 170. Students interested in the American history/geography sequence may include any two of the history courses listed above and two of the following geography courses: 252, 253, 255, or 272.
3. senior level work in courses of an interdisciplinary nature such as the cluster courses on landscape, sport, and culture and space that have an American focus, or a senior seminar. Consultation with the program director in senior level course work is strongly recommended.

AMERICAN STUDIES ELECTIVES

More than thirty courses in American subjects are taught at Clark and affiliated institutions. A list of the courses is available in the History and English Departments.

COURSES

10 INTRODUCTION TO HISTORY AND AMERICAN STUDIES/Lecture, Discussion

An introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior is examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings are read and discussed. Refer to course listing under History.

Mr. Ford/Offered every year

See Departments for appropriate listings.

Ancient Civilization

PROGRAM FACULTY

Paul F. Burke Jr., Ph.D., *program coordinator*: Greek and Latin language and literature, Classical mythology, Classical art and archaeology, ancient history

Shulamith Bitran, M.A.: visiting lecturer in Hebrew

Nina Duncan-Groeneweg: instructor in Greek

Everett Fox, Ph.D.: Jewish ritual and folklore, Classical Jewish thought

William A. Koelsch, Ph.D.: cultural-environmental history, history of geography

Michael Pakaluk, Ph.D.: history of ancient philosophy, Plato, Aristotle

Rhys F. Townsend, Ph.D.: ancient Greek art and architecture, underwater archaeology, Classical tradition in Western art, early Christian and Byzantine art

PROGRAM IN ANCIENT CIVILIZATION

The Program in Ancient Civilization consists principally of courses offered by the four primary faculty participants, whose scholarly fields are art history, classics, Jewish studies, and philosophy. Courses offered by other Clark faculty that fall into the general category of ancient civilization will be cross-listed as available, and courses from other Worcester Consortium colleges may be used to enhance this major.

The program offers an interdisciplinary undergraduate major and makes available courses covering the entire spectrum of ancient Mediterranean culture including Greek, Hebrew, and Latin languages. Emphasis throughout the program is placed on developing familiarity with the ancient world for a sound understanding of the roots of modern Judaeo-Christian culture. The purpose of the major in particular is to supply the student with a sound interdisciplinary knowledge of the ancient Greco-Roman and Judaeo-Christian roots of Western civilization.

THE MAJOR IN ANCIENT CIVILIZATION

Majors are expected to acquire a working knowledge of at least one of the principal languages of the ancient Mediterranean (Classical Greek, Hebrew, or Latin); this language component of the major program ensures direct access to the culture, literature, philosophy, and history of the ancient world. Program faculty also wish their courses to be accessible to the general undergraduate population in order that as many Clark students as possible may be introduced to the various aspects of the ancient world by the comprehensive series of courses brought together here. By incorporating art history, Jewish studies, and philosophy with what has been traditionally identified as classics (Greek and Latin language and literature), the Clark Program in Ancient Civilization presents established disciplines in a stimulating and original configuration.

Students majoring in ancient civilization, and in some related areas, are eligible to apply for admission to the Intercollegiate Center for Classical Studies in Rome, where they will spend a semester studying Classical literature and archaeology.

MAJOR REQUIREMENTS

In order to graduate as an ancient civilization major, a student must complete successfully at least ten courses in ancient civilization. These courses must include:

1. at least two courses, not both in the same department, from the group of foundation courses:
Art History 101, *Introduction to Western Art I*
Art History 110, *Ancient Greek Art*
Classics 111, *Roman Art and Architecture*
Classics 121, *Introduction to Greek Culture*
History 174, *The Jewish Experience*
Philosophy 121, *History of Western Philosophy*
2. at least one semester course at or above the intermediate level (language 103) in Greek, Hebrew, or Latin.
3. a one-semester senior seminar, to be taken preferably during the second semester of the senior year, to include the writing of a major research paper, and to be arranged in consultation with at least two members of the program faculty by the end of the junior year.

COURSES

A. ART HISTORY

101 INTRODUCTION TO WESTERN ART I

Refer to course description under Art History.
Mr. Townsend, Ms. Levesque/Offered every year

105 THE AEGEAN WORLD

Refer to course description under Art History.
Mr. Townsend/Offered every other year

106 INTRODUCTION TO ARCHAEOLOGY

Refer to course description under Art History.
Mr. Townsend/Offered every other year

109 CLASSICAL MYTH AND THE GREEK IDEAL

Refer to course description under Art History.
Mr. Townsend/Offered every other year

110 ANCIENT GREEK ART

Refer to course description under Art History.
Mr. Townsend/Offered every other year

111 ROMAN ART AND ARCHITECTURE

Refer to course description under Classics.
Ms. Duncan-Groeneweg/Offered every other year

114 ANCIENT CITIES AND SANCTUARIES

Refer to course description under Art History.
Mr. Townsend/Offered every other year

215 THE TEMPLE BUILDERS: ARCHITECTURE IN ANCIENT GREECE

Refer to course description under Art History.
Mr. Townsend/Offered periodically

219 SPECIAL TOPICS: ANCIENT ART

Refer to course description under Art History.
Mr. Townsend/Offered periodically

B. CLASSICS

GREEK

101/102 INTRODUCTORY GREEK

Refer to course description under Classics.
Ms. Duncan-Groeneweg (1990-91)/Offered every year

LATIN

101/102 INTRODUCTORY LATIN

Refer to course description under Classics.
Staff/Offered every year

CLASSICS COURSES TAUGHT IN ENGLISH

005 ROMANS AND BARBARIANS

Refer to course description under Classics.

Mr. Burke/Offered every other year

111 ROMAN ART AND ARCHITECTURE

Refer to course description under Classics.

Ms. Duncan-Groeneweg/Offered every other year

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics.

Ms. Duncan-Groeneweg/Offered every other year

124 INTRODUCTION TO CLASSICAL MYTHOLOGY

Refer to course description under Classics.

Mr. Burke/Offered every other year

157 THE AGE OF NERO

Refer to course description under Classics.

Mr. Burke/Offered every other year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics.

Mr. Burke/Offered every other year

267 RELIGIOUS EXPERIENCE IN THE ANCIENT WORLD

Refer to course description under Classics.

Mr. Burke/Offered every other year

C. JEWISH STUDIES

HEBREW

101/102 ELEMENTARY HEBREW

Refer to course description under Foreign Languages and Literatures/Hebrew.

Ms. Bitran/Offered every year

103 INTERMEDIATE HEBREW

Refer to course description under Foreign Languages and Literatures/Hebrew.

Ms. Bitran/Offered every year

104 INTERMEDIATE/ADVANCED HEBREW

Refer to course description under Foreign Languages and Literatures/Hebrew.

Ms. Bitran/Offered every year

JEWISH STUDIES COURSES TAUGHT IN ENGLISH

D. PHILOSOPHY

121 HISTORY OF ANCIENT PHILOSOPHY

Refer to course description under Philosophy 141.

Mr. Pakaluk/Offered every year

250 PLATO/Seminar

Refer to course description under Philosophy.
Mr. Pakaluk/Offered every other year

251 ARISTOTLE/Seminar

Refer to course description under Philosophy.
Mr. Pakaluk/Offered every other year

HISTORY

174 THE JEWISH EXPERIENCE

Refer to course description under History.
Staff/Offered every year

F. COMPARATIVE LITERATURE

120 THE EPIC JOURNEY

Refer to course description under Comparative Literature.
Mr. Burke/Offered every other year

G. GEOGRAPHY

174 THEMES IN CLASSICAL GEOGRAPHIC THOUGHT

Refer to course description under Geography.
Mr. Koelsch/Offered every year

Art

See Department of Visual and Performing Arts.

Asian Studies

PARTICIPATING FACULTY

Paul S. Ropp, Ph.D., *program director*: Chinese history
Robert C. Hsu, Ph.D., *acting director 1990-91*: Chinese and Japanese economics
Michiko Y. Aoki, Ph.D.: Japanese language, literature, and culture
Cynthia H. Enloe, Ph.D.: Japanese and Southeast Asian politics
Stefan Tanaka, Ph.D.: Japanese history

ADJUNCT FACULTY

Thomas Gottschang, Ph.D.: Chinese economics (College of the Holy Cross)
Douglas Johnson, Ph.D.: Southwest Asian geography
Thomas P. Massey, Ph.D.: Chinese history and U.S.-Asian trade

Ronald K. Richardson, Ph.D.: British India

Claudia Ross, Ph.D.: Chinese language and linguistics (College of the Holy Cross)

Elizabeth Swinton, Ph.D.: Asian art (Worcester Art Museum)

Karen Turner, Ph.D.: Chinese history (College of the Holy Cross)

Alice Valentine, M.A.: Japanese history and culture

UNDERGRADUATE PROGRAM

Asian Studies is an interdisciplinary undergraduate program, which can be taken as a concentration within a regular major in comparative literature, history, international development, or government. In addition to Asian Studies courses offered at Clark, students may apply to study one year abroad at Kansai Gaidai or Sophia University in Japan, to take advanced courses there in Japanese language and other Japan- and Asia-related fields. Through the Worcester Consortium for Higher Education, Clark students may also take courses in Chinese language and other Asia-related fields at the College of the Holy Cross. In cooperation with Clark's International Programs Office, students may also make special arrangements to study one year abroad in the People's Republic of China.

To concentrate in Asian Studies, a student must take six Asian Studies courses, at least four of which must be nonlanguage courses, including Asian Studies 80, *Introduction to Modern Asia*, and an Asia-related seminar or independent research project. Students concentrating in Asian Studies are encouraged, though not required, to study one year abroad in Asia and to take at least one year of Chinese or Japanese language.

Students who concentrate in Asian Studies are also encouraged to take courses from the following list of related courses: GEOG 027, *Geography of the Third World*; GEOG 127, *Political Economy of Underdevelopment*; GEOG 140, *Cities and Culture: Non-American City*; GEOG 284, *Landscapes of the Middle East*; GOVT 117, *Revolution and Political Violence*; GOVT 222, *Strategies of Development and Change in Communist Political Systems*; GOVT 261, *Women and Militarization in a Comparative Politics Perspective*; HIST 90, *Twentieth-Century Global History*, ID 125, *Development Problems*; and (depending on the topic) HIST 291, *Seminar in Advanced Topics in International Relations*. These courses do not carry Asian Studies credit, but they each deal with Asia at some point in the course. They are therefore recommended to supplement the list of regular Asian Studies courses that follows.

COURSES

31 GREAT BOOKS OF CHINA/Lecture, Discussion

Refer to course description under History 31.

Mr. Ropp/Offered every other year

80 INTRODUCTION TO MODERN ASIA/Lecture

A survey of modern historical trends in India, China, Japan, Southeast Asia, and Korea. Through political biographies, literary selections, and general histories, the course compares native traditions, colonial experiences, and postcolonial developments in Asia since 1800.

Mr. Ropp or Mr. Tanaka/Offered every year

101-102 ELEMENTARY JAPANESE/Lecture, Discussion

An introduction to the Japanese language, with emphasis on speaking, listening, reading and writing. In addition to spoken Japanese, students learn *hiragana* and *katakana* in the first semester, and begin learning *kanji* in the second.

Ms. Aoki/Offered every year

103-104 INTERMEDIATE JAPANESE/Lecture, Discussion

A continuation of first-year Japanese, with emphasis on learning *kanji*, mastering more complex grammatical forms, and increasing fluency in spoken Japanese.

Ms. Aoki/Offered every year

161 BRITISH INDIA

Refer to course description under History 161.

Mr. Richardson/Offered periodically

177 CHINESE AND JAPANESE ECONOMIES/Lecture, Discussion

Refer to course description under Economics 177.

Mr. Hsu/Offered every other year

181 TRADITIONAL CHINA/Lecture, Discussion

Refer to course description under History 181.

Mr. Ropp/Offered every other year

182 MODERN CHINA/Lecture, Discussion

Refer to course description under History 182.

Mr. Ropp/Offered every other year

184 MODERN JAPAN/Lecture, Discussion

Refer to course description under History 184.

Mr. Tanaka/Offered every other year

186 EAST ASIA AND THE WEST

Refer to course description under History 186.

Mr. Tanaka/Offered every other year

236 POLITICS OF PHILIPPINES AND VIETNAM/Lecture, Discussion

Refer to course description under Government 236.

Ms. Enloe/Offered every other year

265 POLITICS OF JAPAN/Lecture, Discussion

Refer to course description under Government 265.

Ms. Enloe/Offered every other year

280 SEMINAR IN ASIAN HISTORY/Seminar

Topical seminar in Asian History for Asian Studies majors.

Mr. Ropp/Offered periodically

281 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

Refer to course description under History 281.

Mr. Ropp/Offered every other year

282 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Refer to course description under History 282.

Mr. Ropp/Offered every other year

283 JAPANESE CULTURE AND ECONOMIC DEVELOPMENT

A study of the relationship between Japanese culture and the economic development of Japan from the fifteenth century to the present. Emphasis is placed on the evolution of economic institutions and business practices within the general context of Japanese culture.

Ms. Aoki/Offered periodically

Astronomy

See Department of Physics.

Biochemistry and Molecular Biology

PROGRAM FACULTY

M. Margaret Comer, Ph.D., *program director*: molecular genetics of bacteria
John J. Brink, Ph.D.: metabolic regulation, pharmacology, neurochemistry
Frederick Greenaway, Ph.D.: bioinorganic chemistry, magnetic resonance
Donald J. Nelson, Ph.D.: protein chemistry, pharmacology
David L. Thurlow, Ph.D.: RNA-protein interactions

AFFILIATE FACULTY

George E. Wright, Ph.D.: pharmacology, drug-DNA polymerase interactions

UNDERGRADUATE PROGRAM

The Biochemistry and Molecular Biology Program offers an interdisciplinary major that draws on the faculty and course resources of the Departments of Biology and Chemistry. Designed to provide students with an in-depth exploration of an area of science that is perhaps the most exciting and actively growing of any today, the program is suitable for students who want to (1) pursue graduate studies in the area, (2) enter medical school with a strong background in basic science, or (3) take laboratory or other science-related positions after graduation. Those wishing to major in biochemistry and molecular biology must select an advisor within the program and file a plan of study with the program director.

MAJOR REQUIREMENTS

Students first obtain a solid grounding in biology, chemistry, physics, and calculus, and then take Biochemistry, a year-long course sequence that covers our current understanding of the field. After that, there is a choice between two "tracks," or alternative ways to complete the major, depending on the individual's interests.

The core curriculum consists of the following required courses:

Introduction to Calculus (Math 120 and 121, or 124 and 125)

Introduction to Physics (Phys 110 and 111, or 110 and 112)

Introductory Chemistry (Chem 101 and 102)

Introduction to Biology (Biol 101 and 102)

Organic Chemistry (Chem 131 and 132)

Physical Chemistry I (Chem 260)

Biochemistry I and II (Bcmb 271 and 272)

The student will also complete *one* of the following two groups of courses, emphasizing either biochemistry or molecular biology.

Courses required for the biochemistry track:

Genetics (Biol 118) or *Microbiology* (Biol 109)

Cell Biology (Biol 137) or *Physiology* (Biol 240)

Bioanalytical Chemistry (Bcmb 144)

Biophysical Chemistry (Bcmb 264)

Courses required for the molecular biology track:

Genetics (Biol 118)

Cell Biology (Biol 137) or *Microbiology* (Biol 109)

Molecular Genetics (Bcmb 228) or *Structure and Function of Nucleic Acids* (Bcmb 276)

Recombinant DNA (Bcmb 231)

In addition, students must complete two additional courses related to biochemistry and molecular biology. This requirement may be satisfied with any of the program offerings, or a directed research course, or any biology or chemistry course in the list above (and not already used to fulfill a requirement), or other biology or chemistry courses if approved by the advisor.

HONORS PROGRAM

A student interested in the honors program should contact the program faculty member with whom the student would like to do research, and then apply in writing to the program director for admission. A "B" average is required. In addition to the course requirements listed above, honors candidates must (a) carry out a research project under the supervision of a faculty member in the Biochemistry and Molecular Biology Program, (b) submit an honors thesis or publication based on the research project, (c) present their research results in a public seminar, and (d) pass a comprehensive oral examination. Students are encouraged to begin their research in the summer following the junior year, if not earlier.

COURSES

144 BIOANALYTICAL CHEMISTRY/Lecture, Laboratory

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics discussed include: chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 132. In-class and final exams, laboratory reports.

Mr. Nelson/Offered every other year

228 MOLECULAR GENETICS/Lecture, seminar

Explores recent discoveries in the molecular genetics of prokaryotes and eukaryotes, with emphasis on new findings from recombinant DNA technology and DNA sequencing. Topics include: protein synthesis, RNA transcription, gene regulation, repetitive DNA, gene cloning, split genes, gene families, transposable elements, oncogenes, and antibody gene rearrangement. Intended primarily for seniors and graduate students. Prerequisite: Bcmb 272 or Biology 118 or permission of instructor.

Ms. Comer, Mr. Thurlow/Offered every other year

231 RECOMBINANT DNA/Lecture, Laboratory

An introduction to gene cloning techniques. Students clone *Escherichia coli* DNA in a plasmid vector; specific experiments include DNA purification, restriction enzyme digestion, agarose gel electrophoresis, DNA ligation, bacterial transformation, genetic characterization of recombinants, restriction mapping, and DNA sequencing. Two laboratory periods per week. Prerequisites: Biology 118 in addition to Biology 109 or Bcmb 271.

Ms. Comer/Offered every other year

252 BIOINORGANIC CHEMISTRY/Lecture

This course discusses the chemistry of metals in biological systems and models of these systems. There is a lengthy introduction to general principles and theories of inorganic chemistry and of metal ion and drug transport in biological systems. This is followed by an introduction to physical techniques used in studying metalloproteins. The major part of the course is a discussion of the application of these principles and methods by way of a survey of metallobiological systems. Prerequisite: Permission of instructor.

Mr. Greenaway/Offered every other year

264 BIOPHYSICAL CHEMISTRY/Lecture, Laboratory

This rigorous course in physical chemistry, offered as an alternative to Chemistry 262, emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, and x-ray diffraction. Prerequisite: Chemistry 260.

Mr. Nelson/Offered every other year

271 BIOCHEMISTRY I/Lecture, Laboratory**272 BIOCHEMISTRY II/Lecture**

This two-semester course provides a comprehensive and up-to-date survey of the field of biochemistry. The first semester covers cell metabolism and protein structure and function; the second semester deals with nucleic acid and protein metabolism and other topics. A laboratory component for the first semester acquaints students with methods and instrumentation used in biochemical research. Prerequisites: Biology 101, 102, and Chemistry 132.

Mr. Brink, Ms. Comer, Mr. Nelson, Mr. Thurlow/Offered every year

273 NEUROCHEMISTRY/Lecture

The metabolic aspects of brain amines and biopolymers are considered in relation to neural function. Effects of drugs on memory processes, pain, and emotion are discussed in terms of biochemical mechanisms. Prerequisite: Biology 101, 102, and Chemistry 132, or permission of instructor.

Mr. Brink/Offered every other year

275 PROTEIN CHEMISTRY/Lecture

Discusses the structure and function of biologically important macromolecules. Particular emphasis is placed on proteins (enzymes and noncatalytic proteins), protein synthesis from nucleic acids, and the structure and function of biological membranes. Prerequisite: Chemistry 132.

Mr. Nelson/Offered every other year

276 STRUCTURE AND FUNCTION OF NUCLEIC ACIDS/Lecture

This course discusses principles of nucleic acid structure, including types of helices, primary structure, secondary structure, and supercoiling. In the second half of the course, students discuss papers relating the principles of structure to a particular function such as storage, expression of information, catalysis, and evolution of the genetic code. Prerequisite: Biochemistry 272.

Mr. Thurlow/Offered every other year

277 BIOCHEMISTRY OF DISEASE/Lecture, Discussion

This course considers biochemical systems that are perturbed in metabolic regulatory processes, as in cardiovascular disease, hormonal imbalance (diabetes), and genetic defects (Tay-Sachs disease). The effects of environmental influences represented by drug and nutrient components also are considered. Prerequisite: Biology 101, 102, and Chemistry 132, or permission of instructor.

Mr. Brink/Offered every other year

299.1 DIRECTED READINGS/Discussion

Advanced readings in the scientific literature under the direction of a professor.

Prerequisite: permission of instructor.

Staff/Offered every semester

299.2 DIRECTED RESEARCH/Laboratory

Individual investigations involving laboratory research under the direction of a professor. Offered for variable credit. Prerequisite: permission of instructor.

Staff/Offered every semester

299.9 INTERNSHIP

Internships are arranged through the Internship Office. Students may register under Bcmb 299.9 provided that the Clark internship supervisor is a member of the Biochemistry and Molecular Biology Program.

Staff/Offered every semester

Biology

DEPARTMENT FACULTY

Todd P. Livdahl, Ph.D., *chair*: population biology, community ecology, evolution, biostatistics

Vernon Ahmadian, Ph.D.: botany, mycology, symbiosis

John J. Brink, Ph.D.: biochemistry, neurochemistry, nutrition

M. Margaret Comer, Ph.D.: molecular genetics of bacteria

Joseph C. Curtis, Ph.D.: cell biology, electron microscopy, endocrinology

H. William Johansen, Ph.D.: psychology, marine biology

Linda M. Kennedy, Ph.D.: physiology, neurobiology, sensory function, taste

Timothy A. Lyerla, Ph.D.: somatic cell and developmental genetics, human genetic disorders

John T. Reynolds, Ph.D., M.P.H.: applied and environmental microbiology, environmental health

Nicholas S. Thompson, Ph.D.: animal behavior, evolutionary theory

ADJUNCT FACULTY

Charles H. Blinderman, Ph.D.: history of biology, Darwinism, human evolution

Halina S. Brown, Ph.D.: health and risk assessment, environmental chemistry, regulatory toxicology

Stanley R. Herwitz, Ph.D.: hydrology, soil/water plant relationships, biogeography, field methods and instrumentation

Donald J. Nelson, Ph.D.: biochemistry, bioinorganic chemistry

Thomas A. Schoenfeld, Ph.D.: developmental psychobiology, olfaction

David L. Thurlow, Ph.D.: molecular biology

AFFILIATE FACULTY AND RESEARCH ASSOCIATES

Robert Beck, Ph.D.

Clayton B. Cook, Ph.D.

Paul A. Ericksen, Ph.D.

Jerome B. Jacobs, Ph.D.

David Kupfer, Ph.D.

Surindar Paracer, Ph.D.

UNDERGRADUATE PROGRAM

In addition to offering an undergraduate major, a goal of the department is to offer courses that (1) prepare students for work and advanced study in the biological and biomedical sciences, (2) provide support for other programs within the University that require students to obtain a background in one or more subfields of biology, and (3) meet the needs of nonscience majors who wish to integrate the perspectives of the science of biology into a liberal arts curriculum. The major in biology is especially suitable for students who intend to go on to professional schools in the health sciences or graduate work in a variety of subfields of the biological sciences. Requirements for the biology major include:

- eight courses in biology, including Biology 101 and 102 (see below);
- two courses in chemistry (Chemistry 101 and 102);
- two courses in mathematics (Math 110 and 111 or Math 120 and 121);
- two courses in physics (Physics 110, and 111 or 112);
- two additional lecture/laboratory courses in chemistry (usually Chemistry 131 and 132), geology, or physics;
- nine courses outside the fields of biology, chemistry, geology, mathematics, or physics.

Science and mathematics courses offered to meet the major requirements must be taken for a grade and may not be taken as a "pass/no record" course.

Of the eight required biology courses, at least one must be completed in each of the following areas:

1. cellular and molecular biology, including *Genetics* (Biology 118), *Cell Biology* (Biology 137), *Biochemistry* (Biology 271);
2. organismal biology, including *Microbiology* (Biology 109), *Botany* (Biology 110), *Symbiosis and Parasitism* (Biology 211), *Invertebrate Zoology* (Biology 116), *Comparative Anatomy* (Biology 112), *Physiology* (Biology 240); and
3. population biology, including *Marine Biology* (Biology 114), *Ecology* (Biology 216), *Population Biology* (Biology 220), *Environmental Health* (Biology 235).

Please note that the two-semester course, *Introduction to Biology* (Biology 101 and 102), is a prerequisite for all other courses in biology that will be used to meet the requirements for a major.

Prospective majors are urged to consult with an advisor selected from the department's faculty. With careful guidance, a student can maximize the benefits associated with the options available within the major. Included among these options are opportunities to participate in ongoing research in the honors program, specialized research courses, and internships.

NEUROSCIENCE CONCENTRATION

A biology major interested in a career in any of the physiological sciences, medicine, or health care, may wish to concentrate in the interdisciplinary study of neuroscience. An undergraduate who wishes to focus on neuroscience can major in either biology or psychology with a concentration in neuroscience. Both major concentrations require similar coursework. Those interested in a psychology major should refer to the psychology section of this catalogue.

Students who want a neuroscience concentration with a major in biology must fulfill the requirements of the biology major and take the following courses:

- *Neuroscience I and II*, (Biology 140 and 141);

- four additional courses selected from a list of approved neuroscience course offerings (available in the department office);
- a capstone research project to be started no later than the second semester of the junior year. This project must be under the direction of a full-time neuroscience faculty member.

Students with a biology neuroscience concentration are strongly encouraged to take *Genetics*, *Cell Biology*, and *Physiology*. Those with a neuroscience concentration are encouraged to take *Biochemistry*, computer science courses, (e.g., *Computer Programming I*), and an appropriate philosophy course (e.g., *Biomedical Ethics*, *Philosophy of Science*, *Philosophy of Mind*, or *Philosophy of Biology*). Concentrators are also encouraged to take humanities courses and to become proficient in a foreign language.

SPECIAL FIELD COURSES

Clark University maintains formal affiliations with the following organizations, enabling students to apply for admission and preferential financial aid consideration for two special course programs:

The *Bermuda Biological Station for Research* is an internationally renowned center for marine biological and oceanographic research. Two of the department's regular course offerings (*Tropical Marine Ecology* and *Island Biogeography*) use the Biological Station as a site for field trips; in addition, intensive summer field courses are available for qualified Clark students (*Analysis of Marine Pollution*, *Biological Oceanography*, *Zooplankton Ecology*, *Global Environmental Change*, *Tropical Marine Invertebrates*, *Biology of Fishes*, and *Ecophysiology of Corals, Seagrasses, and Mangroves*). Any of these courses can be taken for biology major credit.

The *School for Field Studies* operates five centers at which semester-long, field-oriented courses may be taken for four to five full-course units:

- *The Center for Rainforest Studies* (Australia)
- *The Center for Marine Resource Studies* (Virgin Islands)
- *The Center for Wildlife Management Studies* (Kenya)
- *The Marine Mammal Studies Program* (Baja Mexico)
- *The Center for Studies in Sustainable Development* (Zimbabwe)

Clark students are also eligible for admission into summer courses at those five centers or at satellite sites in the Adirondack Mountains (*Acid Rain: Changing Aquatic Ecosystems*), Alaska (*Ecology of Bald Eagles*, *Harbor Seals: Dynamics of a Population in Crisis*), Costa Rica (*Tropical Cloud Forest Ecology*), Ecuador (ethnobotany), the Rocky Mountains (*Landscape Ecology*), Greece (*Conflicts in Ecological Management: Sea Turtle Survival*), Mexico (*Endangered Monkeys*), the North Atlantic (*Humpback Whale Ecology*), and North Carolina (*Biology and Behavior of Bottlenose Dolphins*). Students interested in taking any of these courses for credit toward the major must first take at least one course in either the organismal or population areas (biology course categories 2 or 3 described above).

The specific course offerings at the Bermuda Biological Station and the School for Field Studies may change each year. Recent, detailed information on the School for Field Studies and the Bermuda Biological Station is available in the department office. Students who wish to apply for these or other off-campus course programs are urged to consult with their advisor or department chair to ensure that the program will satisfy the student's needs for a well-planned biology major.

HONORS PROGRAM

Well-qualified upper-division majors in biology are eligible for admission to a program that can lead to a bachelor of arts degree with honors in biology. A

candidate for honors in biology must meet all requirements of the major, maintain a high grade point average, complete an independent research project under the direction of a departmental faculty member, prepare an acceptable thesis, and pass a final comprehensive examination. The criteria for admission into the honors program are outlined in material available from the department.

INTEGRATED B.A./M.A. DEGREE PROGRAM

This plan, which enables students to complete the requirements for the bachelor of arts and the master of arts degrees within five years, is intended for students who develop sharply focused research interests. Undergraduates who will have completed the chemistry, mathematics, and physics requirements for the biology major by the end of their third year may apply for admission to this program during the second semester of their junior year. Students accepted into the program will be advised individually by a committee of faculty members who will set forth the specific course requirements and research expectations for the master's portion of the program. Courses taken at the 200 level or higher may be counted toward the course requirements for both the bachelor's degree, which will normally be awarded after the fourth year, and the master's degree, normally awarded after the fifth year. A successful preliminary examination, submission of a thesis, and a final examination based on the contents of the thesis are required of all master's degree recipients. Specific requirements of the program and application procedures are available in the department office.

GRADUATE PROGRAMS

The department offers coursework leading to the master of arts and doctor of philosophy degrees in biology. Candidates for these degrees can emphasize biochemical and developmental genetics, cell biology, endocrinology, environmental microbiology, marine phycology, molecular genetics, neurochemistry and regulatory biochemistry, population ecology and population genetics, sensory neurophysiology, or symbiosis and parasitism.

In addition, there are opportunities for interdepartmental work in biochemistry/molecular biology, the neurosciences, and environmental sciences.

It will be assumed that all students admitted to the department's graduate program(s) will be working toward the doctoral degree, but it may be appropriate that some students complete the master's program before beginning doctoral work. Students applying for admission to either program must demonstrate adequate preparation in the basic sciences, an overall undergraduate record of *B* or better, and satisfactory scores on the Graduate Record Examination. Tuition scholarships and research and teaching assistantships are available to qualified students. Further information can be obtained from the department chair.

MASTER OF ARTS

A candidate for the master of arts degree must complete three to four semesters of academic work, pass a qualifying examination before the end of the second semester in residence, acquire teaching and research experience, and defend an acceptable thesis. Specific requirements for individual students will be determined by the faculty advisors.

DOCTOR OF PHILOSOPHY

Qualified students may be admitted into the doctoral program. The minimal requirements for a candidate for the doctoral degree are determined by the University and can be found in the section of this catalogue describing the Graduate School. Additional requirements and the details of individual programs will be determined by the student's advisory committee.

COURSE RECOMMENDED FOR NONSCIENCE MAJORS

10 THE BIOLOGICAL WORLD/Lecture, Laboratory

An introductory course for those not majoring in one of the sciences. The course is offered to provide those students with an understanding of the central themes of modern biology and to illustrate methods and modes of scientific inquiry in the life sciences. Theme and content may vary with the instructor. Biology 101, 102 are *not* required.

Staff/Offered every year

COURSES OFFERED FOR SCIENCE MAJORS AND OTHER QUALIFIED STUDENTS

101 INTRODUCTION TO BIOLOGY I/Lecture, Laboratory

102 INTRODUCTION TO BIOLOGY II/Lecture, Laboratory

A two-semester course designed with three goals in mind: (1) to provide students with an understanding of the unifying themes in modern biology, (2) to introduce students to the diversity of life forms at all levels of organization, and (3) to illustrate the methods and modes of scientific inquiry in the biological sciences. The emphasis is on organismic and evolutionary biology during one semester and on cellular and molecular biology during the other semester. Both semesters must be completed for enrollment in advanced courses offered to satisfy the requirements of the biology major. Prior approval of the chair of the department must be obtained if a qualified student wishes this requirement to be waived.

Staff/Offered every year

103 BIOGEOGRAPHY/Lecture

Past and present geographical distributions of plant and animal species are considered in relation to continental drift, species interactions, dispersal strategies, biological evolution, and human activity. Island biogeography and the biogeography of tropical vascular plants are emphasized. Prerequisites: Biology 101 and 102.

Mr. Herwitz/Offered every year

109 MICROBIOLOGY/Lecture, Laboratory

An introduction to the fundamental principles and methods of microbiology with applications to the biomedical and environmental sciences. Emphasis is on bacteriology. Prerequisites: Biology 101, 102, and Chemistry 102, or permission of instructor.

Mr. Reynolds/Offered every year

110 BOTANY/Lecture, Laboratory

Structure, development, and evolutionary relationships of plants are examined along with plant functions such as photosynthesis, communication, and transport. Aspects of the molecular biology of plants, plant ecology, genetics, hormones, and nutrition are discussed. The diversity of plants is reviewed, as is their role in symbiosis and genetic engineering. Protists, fungi, and bacteria are considered in relation to plants. Prerequisites: Biology 101 and 102.

Mr. Ahmadjian/Offered every year

112 COMPARATIVE VERTEBRATE MORPHOLOGY/Lecture, Laboratory
Analyses of vertebrate structure and its evolution from fish to mammals. Anatomical studies of vertebrate organ systems and their gross structure through dissection of various vertebrates are emphasized. Prerequisites: Biology 101 and 102.
Mr. Lyerla/Offered every other year

114 MARINE BIOLOGY/Lecture, Field Trips
This course is an introduction to the diversity and ecology of life in the oceans. Studies of basic physical oceanography and marine ecology precede studies of marine ecosystems such as salt marshes, kelp forests, rocky shores, plankton, and deep seas. Also included are the relationships of marine biology to the welfare of mankind. Prerequisites: Biology 101 and 102.
Mr. Johansen/Offered every year

115 FLOWERING PLANTS/Lecture, Laboratory
An introduction to the identification, classification, evolution, and ecology of flowering plants. Ferns, fern-allies, and gymnosperms are considered. Includes short field trips to nearby areas. Prerequisites: Biology 101, 102, and permission of instructor.
Mr. Ahmadjian/Offered periodically

118 GENETICS/Lecture, Discussion
A basic course in genetics covering Mendelian analyses; the molecular nature and function of the gene; gene and chromosome mutation; genetic mapping in eukaryotes and prokaryotes; and population genetics. Prior exposure to college-level chemistry is recommended. Prerequisites: Biology 101 and 102.
Mr. Lyerla/Offered every year

119 EXPERIMENTAL GENETICS/Discussion, Laboratory
A one-half credit course that provides laboratory experience in genetic analyses. A variety of open-ended exercises will be performed including: *Drosophila* crosses, chromosome analyses, bacterial transformation, and recombinant DNA analyses. The course is run in conjunction with *Genetics* (Biology 118) as additional background in basic genetics. It is designed to fit comfortably in a four-course schedule and can be taken at no extra cost as a half course overload. Corequisite or prerequisite: Biology 118.
Mr. Lyerla/Offered every year

135 THE PARADOX OF ANIMAL SOCIALITY/Lecture, Discussion
Refer to course description under Psychology 135. Prerequisites: Biology 101 and 102.
Mr. Thompson/Offered every year

137 CELL BIOLOGY/Lecture, Laboratory
The cell as a structural and functional unit is studied. Included are introductions to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin, and discussion of the roles of the nucleus, cytoplasm, and cell membranes in the regulation of cell metabolism. Prerequisites: Biology 101 and 102.
Mr. Curtis/Offered every year

140 NEUROSCIENCE I/Lecture, Laboratory, Discussion
The first of a two-course introduction to invertebrate and vertebrate nervous systems. Basic anatomy, physiology and chemistry, and the function of

sensory and motor systems are covered. Emphasis is on classical and current research and on neuroscience as a complex of research problems requiring integrated anatomical, electrophysiological, chemical, and behavioral approaches. Guest lecturers include neuroscientists from the Biology, Chemistry, and Psychology Departments at Clark and from neighboring institutions. Prerequisites: Biology 101, 102, and Psychology 101.

Ms. Kennedy, Mr. Schoenfeld/Offered every year

140 NEUROSCIENCE II/Lecture, Discussion

The second of a two-course introduction to nervous systems. Surveys current problems in neuroscience including theories of brain function. Emphasis is on the underlying physiological mechanisms that mediate behavior, i.e. motivation, emotion, learning, and memory. The course is constructed on a systems approach designed to demonstrate the complex and interdependent relationship of the body and brain to behavior. Prerequisite: Biology 140.

Mr. Schoenfeld, Ms. Kennedy/Offered every year

170 NUTRITION AND METABOLISM/Lecture

Human health is studied from the perspective of the chemistry of biological regulatory processes. The basic components of food are presented, and their biological function of maintaining human growth and vitality is studied. The role of food additives and cultural variations in diet in regard to pathology is discussed. Prerequisites: Biology 101, 102, Chemistry 101, and 102.

Mr. Brink/Offered every other year

183 LANGUAGE OF BIOLOGY/Lecture

Concerned with the study of Latin and Greek roots and affixes that constitute biological terms in disciplines such as paleontology, taxonomy, and anatomy. The course also surveys the history of biology through its language: when certain concrete and abstract terms entered the language, who invented them, how their meanings may have changed, and possible alternate contemporary definitions. Prerequisites: Biology 101 and 102.

Mr. Blinderman/Offered periodically

201 ISLAND BIOGEOGRAPHY/Lecture, Field trip

A study of the biology and geology of islands, with special emphasis on Bermuda. The course includes lectures, projects, and a one-week field trip to the Bermuda Biological Station during the University spring vacation. Prerequisites (or corequisites): Biology 101 and 102, and Geology 100 or Biology 110, Biology 114, Biology 116, Biology 216, or Biology 103/Geography 112. A laboratory fee of approximately \$600 is required.

Mr. Herwitz, Mr. Johansen, Mr. Livdahl/Offered every year

204 WATERSHED ECOLOGY/Lecture, Discussion

Advanced seminar examining current scientific literature on the biogeochemistry of contrasting forested ecosystems. Topics include the inputs, outputs, and internal transfers of energy and nutrients in north temperate hardwood forests, tropical rainforests, cloud forests, eucalypt woodlands, and baldcypress swamps. The Hubbard Brook ecosystem study is considered in detail. Includes a field trip to the Hubbard Brook experimental watershed in the White Mountains. Prerequisites: Biology 101 and 102.

Mr. Herwitz/Offered every other year

211 SYMBIOSIS AND PARASITISM/Lecture, Discussion

Symbiotic and parasitic associations including animals, plants, protists, fungi, and bacteria are studied. The descriptive and functional aspects of each type of association are considered along with the experimental techniques that are used to study interrelationships between symbionts. Prerequisites: Biology 101 and 102.

Mr. Ahmadjian/Offered every other year

216 ECOLOGY/Lecture

Provides an overview of ecology as a scientific discipline. The primary emphasis is on efforts to explain and predict the distribution and abundance of organisms, how ecological communities are composed, and why they vary in time and space. Prerequisites: one or more courses from the organismal biology group and one college-level math course.

Mr. Livdahl/Offered every year

217 TROPICAL MARINE ECOLOGY/Lecture, Field trip

This course centers around a five-day field trip to Bermuda to study the ecology of coral reefs, rocky shores, mangrove communities, plankton, and sandy beaches. Emphasis is on identifying key species and understanding their roles in sustaining tropical marine communities. The course provides a major field experience for students concurrently enrolled in Biology 114, 216, or 222. Corequisite or prerequisite: any one of the following: Biology 114, Biology 216, or Biology 222. This course is available for one-half credit only, and a laboratory fee of approximately \$600 for transportation and housing costs is required.

Mr. Johansen, Mr. Livdahl/Offered every year

220 POPULATION BIOLOGY/Lecture

Examines the properties that exist only at the population level, including schedules for birth and death, population growth patterns, spatial variation in abundance, genetic variation, and the factors that modify these features over time. Prerequisites: Biology 118 and 216 or permission of instructor.

Mr. Livdahl/Offered every other year

221 EMBRYOLOGY AND DEVELOPMENT/Lecture, Laboratory

Considers the fundamentals of development with primary emphasis on the vertebrate embryo. Prerequisites: Biology 101, 102, and permission of instructor.

Mr. Lyerla/Offered every other year

222 COMMUNITY ECOLOGY/Seminar

Factors affecting the biological structure of natural communities are examined, with close attention to field experiments on competition and predation. Prerequisites: Biology 101, 102 and permission of instructor.

Mr. Livdahl/Offered periodically

223 TOPICS IN MARINE BIOLOGY/Lecture, Seminar

This course provides an opportunity to delve in depth into selected topics in marine biology. Areas of study fall under the headings of biological oceanography, marine ecology, marine coastal and open ocean communities, and relationships between humans and the sea. Limited to fifteen (15) students. Prerequisite: Biology 114.

Mr. Johansen/Offered periodically

224 ENDOCRINOLOGY/Lecture

The chemistry and biological actions of hormones are discussed with emphasis on the mammalian endocrine system. Integration of studies of the ultrastructure and biochemistry of endocrine glands and their target tissues are a major focus of this course. Prerequisites: Biology 101 and 102.

Mr. Curtis/Offered every year

225 ELECTRON MICROSCOPY/Lecture, Laboratory

An introduction to the principles of electron optics, use of the electron microscope, preparation of specimens, and the techniques of electron microscopy applicable to biological investigation. Prerequisites: Biology 101, 102, and 137.

Mr. Curtis/Offered every year

226 RESEARCH IN PERCEPTION/Laboratory, Discussion

Refer to course description under Psychology 226. Prerequisites: Biology 101 and 102.

Ms. Wiser/Offered periodically

227 SOMATIC CELL GENETICS/Lecture, Laboratory

An introduction to cell culture methods through analyses of mouse X human somatic cell hybrids. Topics include: maintenance of senescent and immortal cell lines, cell culture media and their preparation, hybridization, cloning, and biochemical and chromosomal characterization of hybrid lines. Prerequisites: Biology 109, 118, and permission of instructor.

Mr. Lyerla/Offered periodically

228 MOLECULAR GENETICS/Lecture, Seminar

Explores recent discoveries in the molecular genetics of prokaryotes and eukaryotes, with emphasis on new findings from recombinant DNA technology and DNA sequencing. Topics include: protein synthesis, RNA transcription, gene regulation, repetitive DNA, gene cloning, split genes, gene families, transposable elements, oncogenes, and antibody gene rearrangement. Intended primarily for seniors and graduate students. Prerequisite: Biology 118 or 272, or permission of instructor.

Ms. Comer, Mr. Thurlow/Offered every other year

231 RECOMBINANT DNA/Lecture, Laboratory

An introduction to gene cloning techniques. Students clone *Escherichia coli* DNA in a plasmid vector; specific experiments include: DNA purification, restriction enzyme digestion, agarose gel electrophoresis, DNA ligation, bacterial transformation, genetic characterization of recombinants, restriction mapping, and DNA sequencing. Two laboratory periods per week. Prerequisites: Biology 118 in addition to Biology 109 or 271.

Ms. Comer/Offered every other year

232 TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH/Lecture, Discussion

Theme and content varies. Offered for graduate students and for undergraduates who have completed a course in microbiology and one or more years of college-level chemistry. Prerequisites: Biology 109, Chemistry 102, and permission of instructor.

Mr. Reynolds/Offered periodically

235 ENVIRONMENTAL HEALTH/Lecture, Discussion

Principles and practices involved in the evaluation and control of selected environmental hazards. Topics covered include: epidemiology, environmental toxicology, risk assessment, infectious agents, water quality standards, waste treatment practices, and occupational exposures. Prerequisites: Biology 109 and Chemistry 102, and/or permission of instructor.

Mr. Reynolds/Offered periodically

238 ISSUES IN PUBLIC HEALTH/Seminar

Discussion of selected readings illustrating approaches and problems associated with the resolution of policy questions in public health. Offered for undergraduates who have completed the area requirements of the biology major. Theme and content varies. Prerequisite: permission of the instructor.

Mr. Reynolds/Offered periodically

240 PHYSIOLOGY/Lecture, Laboratory

An introduction to the principles underlying physiological functions common to all living animals. Covers the subcellular, cellular, and organ levels of organization and places a primary emphasis on the integrative processes whereby all of the diverse organs and systems are oriented to the performance of the complete organism. Prerequisites: Biology 137 or 271, and Chemistry 131.

Ms. Kennedy/Offered every year

241 RISK ASSESSMENT IN ENVIRONMENTAL TOXICOLOGY/Lecture

Focus is on the assessment of hazardous properties of toxic chemicals in the environment and development of public health policy. The first part covers the principles of absorption, distribution, excretion, and toxic action of chemicals on humans; animal testing; and human epidemiology. The second part covers assessment of public health risks on the basis of animal and human test results, development of standards for air and water contaminants, and uncertainty in regulating hazardous chemicals. Prerequisites: Biology 101, 102, and permission of instructor.

Ms. Brown/Offered every year

247 NEUROPHYSIOLOGY/Seminar

Discussion of selected readings from classical and current research papers and books on principles and mechanisms of neuronal function. Emphasis is on understanding and critically evaluating research that has been done, understanding the significance of the work in a particular reading to the field as a whole, and recognizing appropriate directions for future research in each problem area. Prerequisites: Biology 140 or 240.

Ms. Kennedy/Offered every other year

260 DIRECTED RESEARCH/Laboratory

An advanced independent study for undergraduates of an approved topic under the direction of a department member. Prerequisite: permission of instructor.

Staff/Offered every year

261 DIRECTED READINGS/Discussion

Advanced readings on an approved topic under the direction of a department member. Prerequisite: permission of instructor.

Staff/Offered every year

262 HONORS IN BIOLOGY

Readings and research for students in the honors program. Pass/no record only.

Staff/Offered every year

271 BIOCHEMISTRY I/Lecture, Laboratory

272 BIOCHEMISTRY II/Lecture

This two-semester course provides a comprehensive and up-to-date survey of the field of biochemistry. The first semester covers cell metabolism and protein structure and function; the second semester deals with nucleic acid and protein metabolism and other topics. A laboratory component for the first semester acquaints students with methods and instrumentation used in biochemical research. Prerequisites: Biology 101, 102, and Chemistry 132.

Mr. Brink, Ms. Comer

Mr. Nelson, Mr. Thurlow/Offered every year

273 NEUROCHEMISTRY/Lecture

Metabolic aspects of brain amines and biopolymers are considered in relation to neural function. Effects of drugs on memory processes, pain, and emotion are discussed in terms of biochemical mechanisms. Prerequisites: Biology 101, 102, and Chemistry 132 or permission of instructor, or Biology 141.

Mr. Brink/Offered every other year

274 DEVELOPMENTAL PSYCHOBIOLOGY/Seminar

The biological foundations and correlates of behavioral development are discussed, with emphasis on the perinatal period. Examples are drawn primarily from the animal literature (rodents, birds, infrahuman primates), treating psychobiological development from an ethological and ecological perspective. The neurological and physiological antecedents of human development are discussed where feasible, particularly with reference to developmental disorders. Topics include: neural and hormonal development, plasticity of visual and olfactory development, early learning and memory, development of bird song, parental behavior, early stress, developmental antecedents of sexual and sexually-dimorphic behaviors, psychobiological aspects of autism and ADD. Open to advanced undergraduate and graduate students.

Mr. Schoenfeld/Offered periodically

277 BIOCHEMISTRY OF DISEASE/Lecture, Discussion

The course considers biochemical systems that are perturbed in metabolic regulatory processes as in cardiovascular disease, hormonal imbalance (diabetes), and genetic defects (Tay-Sachs disease). The effects of environmental influences represented by drug and nutrient components are also addressed. Prerequisites: Biology 101, 102, and Chemistry 132 or permission of instructor.

Mr. Brink/Offered every other year

280 BIostatistics and Computer Applications/Lecture

Provides a background in the basic methods of data analysis for biologists, applications of mathematics to the description of biological phenomena, and the generation of testable hypotheses from models of biological processes. Prerequisites: one or more biology courses beyond Biology 101 and 102.

Mr. Livdahl/Offered every year

290 PSYCHOBIOLOGY OF DISEASE/Lecture, Seminar

A review of the literature with respect to theoretical and empirical studies of neurobehavioral factors affecting various physical disorders that have

psychophysiological underpinnings. Relationships among physiological, environmental and cognitive components of behavioral functioning are discussed. Emphasis is placed on consideration of recent findings in areas of behavioral medicine and psychobiology. Consideration is given to the relative roles of physiology and emotions in psychophysiological illness. Prerequisite: Biology 141.

Staff/Offered every year

293 MOLECULAR NEUROPHARMACOLOGY/Lecture, Discussion

This course is designed to provide students with the basic knowledge of the action of drugs that influence the nervous system. The molecular, psychological and behavioral effects of the different classes of drugs such as opiates, stimulants, and tranquilizers will be presented. Topics include: receptor binding kinetics and mechanisms; drug absorption, distribution, and metabolism; molecular biology and cloning of receptors; and general pharmacological principles underlying the design and site specific action of drugs. Prerequisite: Biology 141 or permission of the instructor. (Enrollment is limited.)

Mr. Brink/Offered every other year

294 NEUROANATOMY AND BEHAVIOR/Lecture, Seminar

A systematic exploration of the organization and function of the human nervous system. Topics include: relationships of cortical and subcortical structures of the brain with the spinal cord and peripheral nerves, and the organization of higher brain circuits, which form the anatomical bases of movement, perception, emotion, memory, and thought. Clinical examples bridge neuroanatomy with the neurological and neuropsychological disciplines. Prerequisite: Biology 141 or permission of the instructor.

Mr. Schoenfeld/Offered periodically

295 NEUROENDOCRINE MECHANISMS OF BEHAVIOR/Lecture, Seminar

A comprehensive examination of how neuroendocrine systems influence mammalian behavior. Initially, anatomical and physiological bases for interaction of the nervous and endocrine systems and the various classes of chemical signaling and major neuroendocrine pathways are reviewed. Neuroendocrine control of behaviors, such as feeding, drinking, reproduction, and learning, then are discussed with emphasis on how different classes of neuroendocrine signals individually and interactively influence specific behaviors. Application of new approaches to the study of the neuroendocrinology of behavior is included. Prerequisite: Biology 141 or permission of instructor.

Staff/Offered every year

300 READINGS AND RESEARCH IN BIOLOGY

Offered for variable credit.

Staff/Offered every year

310 SCIENTIFIC WRITING FOR GRADUATE STUDENTS/Discussion

An introduction to the technique of writing scientific papers. The principal assignment is writing a journal article and a detailed analysis of the steps involved. Included are searching the scientific literature, handling quantitative data relevant to biological systems, and delivering an oral presentation on a scientific paper. Prerequisite: permission of instructor.

Mr. Ahmadjian/Offered every other year

325 TOPICS IN CELL BIOLOGY/Seminar

The fine structure and functions of subcellular organelles and macromolecules are discussed. Evidence for structure-function relationships obtained by a variety of physical and biochemical methods is considered, with particular emphasis on electron microscopic studies. Prerequisite: permission of instructor. Mr. Curtis/Offered every other year

341 TOPICS IN ENDOCRINOLOGY/Seminar

Discussion focussed on current literature on the chemistry and biological actions of hormones. Integration of studies of fine structure and biochemistry of endocrine glands and their target tissues is emphasized. Prerequisite: permission of instructor. Mr. Curtis/Offered every other year

352 GRADUATE SEMINAR IN MYCOLOGY

A detailed but broad treatment of fungi with discussion of the major groups of fungi. Topics covered include: classification, genetics, nutrition, biochemistry, molecular biology, secondary products, symbiosis, and ecology of fungi. Prerequisite: permission of instructor. Mr. Ahmadjian, Mr. Paracer/Offered periodically

353 GRADUATE SEMINAR IN MOLECULAR BACTERIOLOGY/Seminar

Recent papers on the molecular biology of bacteria are discussed, with occasional digressions into eukaryotes. The emphasis is on the molecular mechanisms of life, especially gene expression and regulation. Students also report on their own research results. Primarily for graduate students doing research in this area; may be repeated for credit. Prerequisite: permission of instructor.

Ms. Comer/Offered every year

360 MASTER'S THESIS

Offered for variable credit.

Staff/Offered every year

390 DOCTORAL DISSERTATION

Offered for variable credit.

Staff/Offered every year

Business/Management

See Management.

Chemistry

DEPARTMENT FACULTY

Frederick T. Greenaway, Ph.D., *chair*: bioinorganic, physical
Daeg S. Brenner, Ph.D.: nuclear
Karen L. Erickson, Ph.D.: organic, natural products
Alan A. Jones, Ph.D.: polymer: physical
Stuart L. Licht, Ph.D.: physical
Donald J. Nelson, Ph.D.: biochemistry, bioinorganic
David L. Thurlow, Ph.D.: molecular biology
Edward N. Trachtenberg, Ph.D.: organic
Mark M. Turnbull, Ph.D.: organic, organometallic
Wen-Yang Wen, Ph.D.: physical, gas-polymer interactions

PART-TIME FACULTY

Paul T. Inglefield, Ph.D.

AFFILIATE FACULTY

Mauri A. Ditzler, Ph.D.
Larry W. Hardy, Ph.D.
David Kupfer, Ph.D.
Samuel C. Wadsworth, Ph.D.
George E. Wright, Ph.D.

ADJUNCT FACULTY

John J. Brink, Ph.D.
M. Margaret Comer, Ph.D.
Christopher P. Landee, Ph.D.

EMERITUS

Harry C. Allen Jr., Ph.D.: inorganic, physical

UNDERGRADUATE PROGRAM

The Chemistry Department offers an undergraduate program, that includes a major, with the following goals in mind:

1. to provide a variety of course offerings that are consistent with the accreditation requirements of the American Chemical Society;
2. to offer a program that will prepare students for graduate work in chemistry and related fields;
3. to provide a strong scientific background for students planning careers in health-related professions;
4. to encourage students not majoring in science to obtain an overview of the impact of science on society.

The requirements for the chemistry major are two courses in calculus (Math 120 and 121, or 124 and 125), two courses in physics (Physics 110, and 111 or preferably 112), and eleven courses in chemistry and related fields. These courses must include:

Course	Number
Introductory Chemistry I	101
Introductory Chemistry II	102
Organic Chemistry I	131
Organic Chemistry II	132

Environmental Chemistry	142
or Bioanalytical Chemistry	144
Instrumental Analysis	246
Inorganic Chemistry	250
Physical Chemistry I	260
Physical Chemistry II	262
or Biophysical Chemistry	264

The remaining two-course requirement is normally satisfied by advanced chemistry courses, one of which may be Chemistry 299.5, *Special Projects*, or Chemistry 299.8, *Honors*. On rare occasions, with permission from the department, the student may substitute an advanced-level course in biochemistry, computer science, mathematics, physics, or biology. In addition, at least six courses in a major's program must be taken from courses *outside* the fields of biology; biochemistry; computer science; chemistry; geology; mathematics; physics; environment, technology, and society; and environmental affairs.

Students planning graduate study in chemistry are strongly urged to take Physics 112 rather than Physics 111. In addition to the stated requirements, it is recommended that students take Chemistry 360, 231, and/or advanced mathematics, physics, and biochemistry courses, depending on the area of interest. Computer science courses also are recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 299.8) or in a special projects course (Chemistry 299.5) and may do so after completing Chemistry 132.

A student may elect as his/her first course in chemistry: Chemistry 10, 90, 101, 102, or 131. Science majors normally begin with Chemistry 101. The decision to start with Chemistry 102 or 131 (accelerating options) must be made in consultation with the department chair and may require taking a placement examination offered at the beginning of the academic year.

Students who fulfill the normal requirements will have their degrees accredited by the American Chemical Society.

The department publishes an undergraduate handbook, *Chemistry at Clark*, which provides additional information. Copies are available at the department office.

HONORS PROGRAM

An honors degree program is offered for highly qualified majors. Students who want to enter this program must apply in writing to the department chair prior to the beginning of the senior year. Participants are required to engage in an independent research project, participate in the department seminar program, and pass a set of comprehensive examinations. Further information about the program can be obtained from the department chair or the undergraduate handbook.

GRADUATE PROGRAM

The department offers programs leading to the degrees of master of arts and doctor of philosophy with specialization in various fields of chemistry. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal coursework requirements. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal coursework, all students must pass qualifying examinations and submit and defend a research thesis. Ph.D. candidates must

pass preliminary examinations and meet the department language requirement as well. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chair.

COURSES

10 TOPICS IN CONTEMPORARY CHEMISTRY/Lecture

This relatively nonmathematical course is designed for students majoring in social science or the humanities and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half the course is concerned with the development of modern chemical concepts; the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. In-class and final exams.

Staff/Offered every year

11 SCIENCE METHODOLOGY

This relatively nonmathematical course is intended to provide a microcosm of the research experience. Each student studies a chemical compound by investigating never before measured physical/chemical properties (e.g., melting point, boiling point, solubility, density, etc.) of that compound. Participatory learning includes a literature search, structuring a hypothesis, determining an optimal experimental procedure, experimentation, data interpretation, and write-up. Collectively, the course characterizes a class of materials, culminating with the preparation of a short research note for a research journal, cowritten by each of the students. Prerequisite: Chemistry 10 or permission of instructor. In class presentations, library, and laboratory reports.

Mr. Licht/Offered every other year

90 HISTORY OF SCIENCE/Lecture

Traces the development of scientific thought, concepts, and methods from the Classical work (Egyptian, Greek, Roman), through the Middle Ages and the European Renaissance to the modern work. Historical milestones leading to the development of the "scientific method" are discussed in detail. The course concludes with an examination of the impact of chemical technology on modern society. In-class and final exams.

Mr. Nelson/Not offered 1990-91

101 INTRODUCTORY CHEMISTRY I/Lecture, Laboratory

Designed to meet the needs of science majors and the premed program as well as those seeking a rigorous introduction to chemistry as part of their liberal arts education. Introduces fundamental chemical concepts and applies them to a discussion of structure, bonding, and reactivity of molecules. A knowledge of high school algebra is necessary; high school chemistry and physics, although helpful, are not required. The laboratory teaches techniques of chemical experimentation and methods of chemical analysis. In-class and final exams, laboratory reports, and quizzes.

Staff/Offered every semester

102 INTRODUCTORY CHEMISTRY II/Lecture, Laboratory

Continues Chemistry 101 with a discussion of thermodynamics, equilibrium theory, kinetics, electrochemistry, and the application of such theories to

studies of structure and reactivity of molecules. The laboratory studies experimental techniques related to the lecture material. Prerequisite: Chemistry 101 or advanced placement. In-class and final exams, laboratory reports, and quizzes.

Staff/Offered every semester

131 ORGANIC CHEMISTRY I/Lecture, Laboratory

Discusses the chemistry of carbon and its compounds. The structures and reactions of related classes of organic molecules are systematically studied with emphasis on reaction mechanisms and structural factors that affect reactivity. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of these classes of compounds. Prerequisite: Chemistry 102 or advanced placement. In-class and final exams, laboratory reports.

Staff/Offered every semester

132 ORGANIC CHEMISTRY II/Lecture, Laboratory

Continues Chemistry 131 by studying more complex molecules and reaction mechanisms. Prerequisite: Chemistry 131. In-class and final exams, laboratory reports.

Staff/Offered every semester

142 ENVIRONMENTAL CHEMISTRY/Lecture, Laboratory

Focuses on chemistry related to environmental problems, with emphasis on aquatic chemistry and aquatic and air pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 102. In-class and final exams, laboratory reports.

Mr. Licht/Offered every year

144 BIOANALYTICAL CHEMISTRY/Lecture, Laboratory

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics include: equilibrium theory, chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, NMR, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 132. In-class and final exams, laboratory reports.

Mr. Nelson/Offered every other year

230 PHYSICAL ORGANIC CHEMISTRY/Lecture

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisites: Chemistry 132 and 260, or permission of instructor.

Mr. Trachtenberg/Offered every other year

231 ADVANCED ORGANIC CHEMISTRY/Lecture

Provides a framework for students who wish to pursue an interest in organic chemistry beyond the level covered in Chemistry 131 and 132 by bridging the gap between material in standard elementary organic texts and the original literature. Advanced topics selected from structure, synthesis, and reaction mechanisms may include stereochemistry and asymmetric synthesis; ionic, free radical, carbenoid, and concerted reaction mechanisms; structure determination by modern spectroscopic and degradative methods. Prerequisite: Chemistry 132

Staff/Offered every year

233 ORGANIC CHEMISTRY OF BIOMOLECULES/Lecture

Emphasizes the synthesis, proof of structures, reactions, and reaction mechanisms of important classes of molecules playing significant biological roles. Topics include the carbohydrates, fats, proteins, and cyclic ureides, including the pyrimidines and purines of importance in drugs and nucleic acids. Other selected molecules from the steroids, alkaloids, and terpenoids also are discussed briefly. Prerequisite: Chemistry 132.

Mr. Trachtenberg/Offered every other year

235 NATURAL PRODUCTS/Lecture, Optional Laboratory

The structure, synthesis, biosynthesis, and chemistry of selected secondary metabolites including steroids, terpenoids, alkaloids, and actogenins of both terrestrial and marine origin are discussed. Biogenetic theory is used extensively to emphasize the simplicity within the complexity of these natural products. An optional four-hour laboratory per week also is available. Prerequisite: Chemistry 132.

Ms. Erickson/Offered every other year

236 ORGANOMETALLIC CHEMISTRY/Lecture

This course covers material related to compounds containing one or more covalent metal-carbon bonds. The material progresses from the traditional organometallics such as Grignards and cuprates through the transition metal- and main group-complexes. Emphasis is placed on the properties of organometallic compounds and the mechanisms of their formation and subsequent reactions. Because of the recent development of the field, use of the primary literature is stressed. A comparison of traditional organic and inorganic chemistry is developed through this intermediate field. Prerequisites: Chemistry 132, 250, and permission of instructor. In-class and final exams, library work, in-class presentations.

Mr. Turnbull/Offered every other year

242 NUCLEAR SCIENCE/Lecture, Laboratory

This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, structure, and measurement of radioactive atoms. Prerequisite: permission of instructor.

Mr. Brenner/Offered periodically

246 INSTRUMENTAL ANALYSIS/Lecture, Laboratory

Concentrates on instrumental techniques of analytical chemistry from both theoretical and practical points of view. Topics include electrochemistry, various types of spectroscopic analysis, chromatography, and electrophoresis. In the laboratory, these techniques are used in the analysis of chemical samples. Prerequisite: Chemistry 142 or 144. In-class and final exams, laboratory reports.

Mr. Licht/Offered every year

250 INORGANIC CHEMISTRY/Lecture, Laboratory

Deals with theories of structure and bonding and their utility in explaining the chemistry of inorganic substances. Topics include: molecular orbital, valence bond, and crystal field theories of bonding and examples of the use of these theories in explaining the structure and reactivities of inorganic molecules; acid base theory; spectroscopic methods; and kinetics. Emphasis is placed on the interpretation of structure and reactivity in terms of basic molecular and atomic parameters. Prerequisite: Chemistry 142 or 144. Prerequisite or corequisite: Chemistry 132. In-class and final exams, laboratory reports.

Mr. Greenaway/Offered every year

252 BIOINORGANIC CHEMISTRY/Lecture

This course discusses the chemistry of metals in biological systems and models of these systems. There is a lengthy introduction to general principles and theories of inorganic chemistry and of metal ion and drug transport in biological systems. This is followed by an introduction to physical techniques used in studying metalloproteins. The major part of the course is a survey of the application of these principles and methods by way of a survey of metallobiological systems. Prerequisite: permission of instructor.

Mr. Greenaway/Offered every other year

260 PHYSICAL CHEMISTRY/Lecture, Laboratory

Covers the principles of physical chemistry as applied to gases, liquids, solids, and solutions. Much of the course is an introduction to the topic of chemical thermodynamics. The laboratory includes experiments in physical chemistry, the development of techniques of measurement, and technical report writing. Prerequisites: Mathematics 120 and Chemistry 102. Prerequisites or corequisites: Chemistry 132 and either Physics 112 or a strong high school background in physics. In-class and final exams, laboratory reports.

Mr. Wen/Offered every year

262 PHYSICAL CHEMISTRY II/Lecture, Laboratory

The topics covered in this continued discussion of physical chemistry are solutions of the Schrodinger equation for simple systems, atomic and molecular spectroscopy, magnetic resonance, solid state and X-ray diffraction, statistical thermodynamics, and chemical kinetics. In-class and final exams, laboratory reports. Prerequisite: Chemistry 260.

Mr. Wen/Offered every year

264 BIOPHYSICAL CHEMISTRY/Lecture, Laboratory

Refer to course description under Biochemistry 264.

Mr. Nelson/Offered every other year

265 ELECTRON PARAMAGNETIC RESONANCE SPECTROSCOPY/Lecture

This course is designed as an introduction to the theory and application of EPR as a probe of structure and reactivity. Theoretical concepts are discussed in a manner that does not require a knowledge of quantum mechanics, although a basic knowledge of chemistry is required. The course also is designed to be suitable for biology and physics majors. Prerequisite: permission of instructor.

Mr. Greenaway/Offered periodically

271 BIOCHEMISTRY I/Lecture, Laboratory**272 BIOCHEMISTRY II/Lecture**

Refer to course descriptions under Biochemistry 271 and 272.

Staff/Offered every year

275 PROTEIN CHEMISTRY/Lecture

Refer to course description under Biochemistry 275.

Mr. Nelson/Offered every other year

276 STRUCTURE AND FUNCTION OF NUCLEIC ACIDS/Lecture

This course discusses principles of nucleic acid structure including: types of helices, primary structure, secondary structure, and supercoiling. In the second half of the course, students discuss papers relating the principles of structure to a particular function such as storage, expression of information, catalysis, and evolution of the genetic code. Prerequisite: Chemistry 272.

Mr. Thurlow/Offered every other year

280 POLYMER SCIENCE/Lecture

The physical chemistry of synthetic polymers is presented including discussion of kinetic mechanisms of polymerization, molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response also are reviewed. Prerequisite: Chemistry 262 or 264.

Mr. Jones/Offered every other year

290 RESEARCH METHODS/Lecture, Laboratory

This course deals with the application of the most widely used analytical tools in the laboratory. Topics include NMR, EPR, IR, Raman, UV, visible mass, and photoelectron spectroscopy, fluorescence, chromatography, and other techniques as time permits. Emphasis is placed on giving the student practical knowledge for data interpretation and instrument operation. Prerequisite: Chemistry 262 or 264, and permission.

Staff (Mr. Turnbull for permission)/ Offered on demand

299.5 SPECIAL PROJECTS/Laboratory, Discussion

Individual investigations that involve laboratory and/or literature research. Offered for variable credit. Prerequisite: permission of department chair.

Staff/Offered every semester

299.8 HONORS COURSE/Laboratory, Discussion

Primarily for majors seeking departmental honors in chemistry. Involves a laboratory research project and participation in department seminars. Offered for variable credit. Prerequisite: Permission of department chair.

Staff/Offered every semester

300 RESEARCH/Laboratory

Offered for variable credit.

Staff/Offered every semester

322 THERMODYNAMICS/Lecture

Discusses applications of the three laws of thermodynamics to chemical systems.

Mr. Wen/Offered periodically

323 STATISTICAL MECHANICS/Lecture

In this course, statistical mechanics is treated as a connecting bridge between molecular properties and thermodynamics. In addition, theories of phase transitions, classical fluids, and non-equilibrium systems are presented and discussed.

Mr. Wen/Offered every other year

333 SYNTHETIC ORGANIC CHEMISTRY/Lecture

The synthesis of organic compounds is discussed. Topics include the scope and limitations of general methods, mechanistic aspects, and stereochemistry. Special emphasis is on the total synthesis of complex molecules from design of methods to execution. Three lectures per week. Prerequisite: Chemistry 132.

Mr. Turnbull/Offered periodically

350 SEMINAR

Consists of reports on research and discussions of recently published work. Guest Lecturers, Staff, Graduate Students/Not offered for credit

360 QUANTUM CHEMISTRY/Lecture

Essentially an introduction to quantum mechanics. Covers elementary quantum-mechanical treatments of the structure of atoms and molecules. Prerequisite: Chemistry 262 or 264.

Mr. Brenner/Offered every other year

361 MAGNETIC RESONANCE THEORY/Lecture

The theory of static and time dependent interactions involved in magnetic resonance spectroscopy is presented. Energy states are defined on the basis of the time independent Hamiltonian and reflect symmetry. The time dependent terms in the Hamiltonian are used to develop descriptions for line shape collapse and relaxation.

Mr. Jones/Offered every other year

379 SPECIAL TOPICS/Seminar

Consists of research and literature reports by graduate students and undergraduate honors candidates.

Staff/Offered every semester

380 RESEARCH CONFERENCE/Seminar

Consists of informal reports of research work being done in the laboratory.

Staff, Graduate Students/Offered every semester/Not offered for credit

Classics

PARTICIPATING FACULTY

Paul F. Burke Jr., Ph.D., *coordinator*: Greek and Latin language and literature,

Classical mythology, Classical art and archaeology, ancient history

Nina Duncan-Groeneweg: Instructor in Greek

Everett Fox, Ph.D.: Jewish ritual and folklore, Classical Jewish thought

William A. Koelsch, Ph.D.: Professor of Geography and History

Rhys F. Townsend, Ph.D.: ancient Greek art and architecture, underwater archaeology, Classical tradition in Western art, early Christian and Byzantine art

Classics includes courses in the Classical Greek and Latin languages and in English, the culture and history of the Greek- and Latin-speaking peoples of the ancient Mediterranean. Classics courses are recommended to students as part of their general education and to majors in comparative literature, English, foreign languages and literatures, fine arts, history, music, and philosophy. Although there is no departmental major in classics, students interested in pursuing the study of the ancient Greco-Roman and Judaeo-Christian roots of Western civilization are directed to the interdisciplinary and interdepartmental Program in Ancient Civilization.

COURSES

A. GREEK

101/102 INTRODUCTORY GREEK/Lecture, Discussion

A beginner's course in the language of Classical Greece. The course covers the grammar and syntax of the ancient Greek language with the goal of enabling students to read, in the second semester, selections from ancient Greek texts. Course readings, in Greek, may include philosophical works such as Plato's *Apology of Socrates* and *Crito*, or selections from Homer, Herodotus, and the New Testament, depending on class interests. Indivisible course. Ms. Duncan-Groeneweg(1990-91), Mr. Burke/Offered every year

B. LATIN

101/102 INTRODUCTORY LATIN/Lecture, Discussion

A beginner's course in the Latin language including, in the first semester, an introduction to the grammar and syntax of Latin with appropriate attention to Latin's role as parent to the Romance languages and source of much of the vocabulary of modern English. The second semester will be primarily devoted to reading selections from suitable Latin texts such as the lyric poetry of Catullus or Horace, the historical works of Julius Caesar or Livy, the Vulgate Bible, or selected medieval texts. Indivisible course. Staff/Offered every year

C. CLASSICS COURSES TAUGHT IN ENGLISH

005 ROMANS AND BARBARIANS/Lecture, Discussion, Field Trips

A comprehensive survey of the introduction of urbanism to Europe north of the Alps by the Romans, and of the transforming effects of this act upon the society, politics, language, and religion of Western Europe. The course will be offered at the Clark European Center in Luxembourg; to the maximum extent possible, instruction will take place on the archaeological sites covered by the course. Projected date: May-June 1991. Student journals take the place of formal examinations.

Mr. Burke/Offered every other year

110 ANCIENT GREEK ART/Lecture, Discussion

Refer to course description under Art History 110.

Mr. Townsend/Offered every other year

111 ROMAN ART AND ARCHITECTURE/Lecture, Discussion

A survey of the artistic and architectural accomplishments of ancient Rome and of the many peoples who made up the Roman Empire, beginning with the origins of Rome in Bronze Age central Italy. The course treats Roman relations with Etruscans, Greeks, and other non-Latin-speaking peoples as these interactions manifest themselves in Roman art and architecture. The course concludes with an examination of the effect of Judaeo-Christian values on the formerly pagan Empire, the appearance of a Christian Roman government, and the development of distinctively Christian forms of Roman art and architecture. Ms. Duncan-Groeneweg/Offered every other year

115 THE TEMPLE BUILDERS: ARCHITECTURE IN ANCIENT GREECE/Lecture, Discussion

Refer to course description under Art History 215.

Mr. Townsend/Offered periodically

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY/Lecture, Discussion

A general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the classical Greek city-states, the conquests of Alexander, and the emergence of international urban culture in the Mediterranean world. Readings in the works of ancient authors are chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archeology, are illustrated by slides.

Ms. Duncan-Groeneweg/Offered every other year

123 THE MIDRASHIC TRADITION/Lecture, Discussion

An English language study of Midrashic literature, the primary Jewish literary expression after the Bible. Written down mainly during the Roman period, the texts comprise independent legends about supernatural beings, writings about biblical characters (filling in gaps in the biblical stories), traditions about the lives of the ancient rabbis, and wide-ranging statements about worldly wisdom, ethical values, and political reality. Sources are read with an eye toward what they reveal about ancient Jewish society and in the light of recent work in folklore studies. A final unit considers later forms of Midrash, such as Hasidic and contemporary variations.

Mr. Fox/Offered every other year

124 INTRODUCTION TO CLASSICAL MYTHOLOGY/Lecture, Discussion

A study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones), which are particularly useful for gaining an understanding of the function of myth in Greco-Roman antiquity as a vehicle for artistic communication and social commentary. The archaeological and anthropological background of the ancient world is sketched in, and the religious and philosophical implications of myth are discussed. The course pays particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis (structural, psychoanalytical, and literary) are touched upon. Many of the lectures are illustrated by slides.

Mr. Burke/Offered every other year

157 THE AGE OF NERO/Lecture, Discussion

A close study of the first century of Roman Imperial society with particular attention to the reign of the emperor Nero (A.D. 54-68). The course emphasizes the historical and social results of the consolidation, during the first century A.D., to totalitarian rule in Rome, a form of government that would dominate the Mediterranean world and most of Europe for four centuries. The age of Nero was also a period of almost unprecedented creativity in the arts; therefore, students also learn—through the study of Neronian art, architecture, and literature—about the development of a distinctive Imperial idiom in these fields.

Mr. Burke/Offered every other year

174 THEMES IN CLASSICAL GEOGRAPHIC THOUGHT/Lecture, Discussion

Refer to course description under Geography 174.

Mr. Koelsch/Offered every year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD/Lecture, Discussion

A historical and cultural survey of the complex and tumultuous period between the foundation of the Roman Empire and the sixth century A.D., when medieval culture was established in Europe. Two themes dominate the course: (1) the struggle between pagan or classical modes of thought and Judaeo-Christian beliefs and values, and the assimilation of each in the other; (2) the tension within the Christian movement between spiritual and practical concerns as the new religion came to dominate Western culture. The interaction of Greco-Roman, Jewish, and Christian cultures is approached by reading ancient authors in translation, by studying appropriate secondary sources, and by examining representative samples of the visual arts of the period in lectures illustrated by slides.

Mr. Burke/Offered every other year

267 RELIGIOUS EXPERIENCE IN THE ANCIENT WORLD/Lecture, Discussion

A study of the range and variety of religious experience available to the peoples of the ancient Mediterranean from approximately the time of Homer to the official acceptance of Christianity by the Roman Imperial government. Problems to be studied include: the nature of the polytheist gods, prophecy and oracles, conversion and the spread of religious belief, Jewish and Christian monotheism, the problem of evil in ancient religious thought, the rise of Christianity. Students will read primary texts in translation such as: Hesiod's *Theogony*, selected Greek tragedies, and appropriate Jewish and Christian Biblical texts.

Mr. Burke/Offered every other year

Communication Studies

PRINCIPAL ADVISORS

Maren E. Stange, Ph.D., English, *program coordinator*: communication, American culture

Marcia Butzel, Ph.D., Foreign Languages and Literatures: French literature and film, Italian film, feminist film theory

James P. Elliott, Ph.D., English: American literature, literature theory, textual editing

Fern Johnson, Ph.D., *provost*: sociolinguistics, feminist linguistics, communication

Paul Wilkes, M.S., English: print media, documentary film

The Communication Studies Program at Clark is offered not as a major, but as a concentration elected in addition to a major in another discipline. Courses relevant to the communication field are offered in many departments, as there is no department of communication. Communication studies is coordinated by professor Maren Stange of the English department.

The communication studies concentration allows students to structure programs which meet their needs and interests. For example, an English major may wish to concentrate in visual studies as preparation for a career in journalism; a screen studies major interested in becoming a screenwriter may wish to concentrate in writing; or a French major may wish to concentrate in screen studies as background for an interdisciplinary graduate program

combining literature, criticism, and film. In addition to introducing students to concepts and skills in several areas of communication, the concentration fosters the development of critical thinking about the general principles of communication.

More than fifty courses which carry credit toward the communication concentration are listed below. Courses should be selected from this list in consultation with one of the principal advisors.

Students also may register for an internship in an agency or organization directly related to the communication field, such as a newspaper, radio station, television station, graphic design firm, advertising agency, theater company, museum, gallery, public relations firm, or charitable or educational foundation. In some cases the student may choose an on-campus internship, such as working in the Clark Communications Office, Little Center Gallery, Clark Center for Contemporary Performance; assisting a professor or staff member in writing or teaching; or participating in Clark's Teaching Apprentice Program, which is open to students in all majors.

Students also may undertake a directed research project in addition to or in place of their internship. Such research may consist of a project jointly undertaken by a student and a faculty member, or it may be a project designed and executed by the student with faculty approval and supervision. Students interested in this option should discuss it as soon as possible with a principal advisor or with the program coordinator.

In addition to courses offered by the undergraduate college, communication studies concentrators also have the opportunity to enroll in selected courses offered by the College of Professional and Continuing Education (COPACE). COPACE students and faculty maintain a continuing dialogue concerning the "information technology revolution" and its global impact, as well as the cultural, cognitive, and social construction of reality. COPACE provides a diverse list of course offerings that is revised each year and is enriched by collaboratives with various cultural institutions in Worcester that provide students with the opportunity to use museum galleries as stores of cultural artifacts for their studies. COPACE courses combine both theoretical and practical approaches and may include offerings such as: *Desktop Publishing*; *Print Media and Editing*; *Visual Communications: 2-D Design*; *Critical Issues in Communication: Information Technology*; *The Modern World: Art and Culture*; *Communication, Technology, and Democratic Revolutions*; *Social Documentary Photography*; *Advertising*; and *Technology, Public Policy, and Multinational Communication*. Contact COPACE directly for current academic year and summer offerings.

REQUIREMENTS

To concentrate in communication studies, a student must complete the following:

1. A major in any discipline (English, foreign languages and literatures, and visual and performing arts are the most common).
2. Two required courses: 190, *Communication, Culture and Society*; and 299.9, an internship or directed research project.
3. Four additional courses selected in consultation with one of the principal advisors.

REQUIRED COURSES

190 COMMUNICATION, CULTURE AND SOCIETY

A core course rather than a survey or introduction, this course focuses on concepts and ideas from several disciplines that contribute to (or criticize) the intellectual foundations of the communication field. Philosophical and

humanities-oriented in approach, the course may include readings by Barthes, Dewey, Lippman, Saussure, and Sontag. Prerequisite: Enrolled students must have taken or be taking concurrently at least one other communication concentration course. Permission of the instructor is required.
Ms. Stange/Offered every year

299.9 INTERNSHIP OR DIRECTED RESEARCH PROJECT
Staff/Offered every year

COURSES RELEVANT TO THE COMMUNICATION STUDIES CONCENTRATION

COMPARATIVE LITERATURE

146 INTRODUCTION TO CINEMA IN SPAIN
Refer to course description under Spanish 146.
Mr. D'Lugo/Offered every other year

147 STUDIES IN SPANISH CINEMA
Refer to course description under Spanish 147.
Mr. D'Lugo/Offered every other year

148 INTRODUCTION TO CINEMA IN LATIN AMERICA
Refer to course description under Spanish 148.
Mr. D'Lugo/Offered every other year

149 STUDIES IN LATIN AMERICAN CINEMA
Refer to course descriptions under Spanish 149.
Mr. D'Lugo/Offered every other year

155 STUDIES IN ITALIAN FILM: NEOREALISM
Refer to course description under Comparative Literature 155.
Ms. Butzel/Offered every other year

196 FRENCH VERSUS AMERICAN TELEVISION
Refer to course description under Comparative Literature 191.
Ms. Butzel/Offered every other year

ENGLISH

19 THE ESSAY: READING AND WRITING
Refer to course listing under English 19.
Ms. Scanlon/Offered every year

102 DOCUMENTARY WRITING
Refer to course listing under English 102.
Ms. Stange/Offered every year

105 WRITING FOR NEWSPAPERS
Refer to course listing under English 105.
Mr. Dempsey/Offered every year

106 CREATIVE WRITING: FICTION
Refer to course listing under English 106.
Mr. Long/Offered every year

107 CREATIVE WRITING: POETRY

Refer to course listing under English 107.

Mr. Long/Offered every year

190 COMMUNICATION, CULTURE AND SOCIETY

Refer to course listing under English 190.

Ms. Stange/Offered every year

191 LANGUAGE DIVERSITY IN THE U.S.

Refer to course description under English 191.

Ms. Johnson/Offered every year

192 ETYMOLOGY

Refer to course description under English 192.

Mr. Blinderman/Offered every year

193 THE LANGUAGE OF BIOLOGY

Refer to course description under English 193.

Mr. Blinderman/Offered every year

195 DOCUMENTARY FILMS

Refer to course description under English 195.

Mr. Wilkes/Offered every year

202 WRITING FOR MAGAZINES I

Refer to course description under English 202.

Mr. Wilkes/Offered every year

203 WRITING FOR MAGAZINES II

Refer to course description under English 203.

Mr. Wilkes/Offered every year

249 SIGNS AND CROSSROADS: SEMIOTIC THEORY AND PRACTICE

Refer to course description under English 249.

Ms. Gertz/Offered periodically

294 THE HISTORY OF THE ENGLISH LANGUAGE

Refer to course description under English 294.

Ms. Gertz/Offered periodically

295 THE ARTS IN MODERN CULTURE

Refer to course description under English 295.

Ms. Stange/Offered every year

ENVIRONMENT, TECHNOLOGY, AND SOCIETY**101 INTRODUCTORY CASE STUDIES**

Refer to course description under ETS 101.

Ms. Brown, Mr. Renn, Staff/Offered every semester

109 SCIENCE AND SOCIETY WRITING SEMINAR

Refer to course description under ETS 109.

Mr. Goble/Offered every semester

FOREIGN LANGUAGES AND LITERATURES

French

136 STUDIES IN FRENCH CULTURE

Refer to course description under French 136.

Ms. Kaufmann, Mr. Spingler/Offered every year

160 FRENCH CULTURE SEEN THROUGH FILM: JEAN RENOIR

Refer to course description under French 160.

Mr. Spingler/Offered every other year

163 HISTORY OF FRENCH CINEMA: BEFORE WORLD WAR II

Refer to course description under French 163

Ms. Butzel/Offered every other year

165 FRENCH DRAMATIC EXPRESSION: PLAY PRODUCTION

Refer to course description under French 165.

Mr. Spingler/Offered every other year

167 FRENCH CINEMA: THE NEW WAVE

Refer to course description under French 167.

Mr. Spingler/Offered every other year

German

127 DRAMATIC EXPRESSION IN GERMAN

Refer to course description under German 127.

Staff/Offered every other year

134 WORKSHOP IN TRANSLATION

Refer to course description under German 134.

Mr. Hughes/Offered every other year

150 THE NEW GERMAN CINEMA

Refer to course description under German 150.

Mr. Schatzberg/Offered every other year

188 THE CULTURE OF WEIMAR REPUBLIC IN LITERATURE, FILM, AND THE ARTS

Refer to course description under German 188.

Mr. Schatzberg/Offered every other year

Spanish

140 SPANISH DRAMATIC EXPRESSION: PLAY PRODUCTION

Refer to course description under Spanish 140.

Staff/Offered every year

141 SPANISH TRANSLATION WORKSHOP

Refer to course description under Spanish 141.

Staff/Offered every other year

146 INTRODUCTION TO CINEMA IN SPAIN

Refer to course description under Spanish 146.

Mr. D'Lugo/Offered every other year

147 STUDIES IN SPANISH CINEMA

Refer to course description under Spanish 147.

Mr. D'Lugo/Offered every other year

148 INTRODUCTION TO CINEMA IN LATIN AMERICA

Refer to course description under Spanish 148.

Mr. D'Lugo/Offered every other year

149 STUDIES IN LATIN AMERICAN CINEMA

Refer to course description under Spanish 149.

Mr. D'Lugo/Offered every other year

GEOGRAPHY**181 INTRODUCTION TO CARTOGRAPHY**

Refer to course description under Geography 181.

Mr. Eastman/Offered every year

189 REMOTE SENSING OF THE ENVIRONMENT

Refer to course description under Geography 189.

Mr. Steward/Offered every year

274 SEMINAR IN CARTOGRAPHIC DESIGN

Refer to course description under Geography 274.

Mr. Steward, Mr. Eastman/Offered every year

292 CARTOGRAPHIC DESIGN AND PRODUCTION

Refer to course description under Geography 292.

Mr. Eastman/Offered every year

298 INTRODUCTION TO AUTOMATED CARTOGRAPHY

Refer to course description under Geography 298.

Mr. Eastman/Offered every year

GOVERNMENT**258 MASS MEDIA AND AMERICAN POLITICS**

Refer to course description under Government 258.

Staff/Offered every other year

HISTORY**228 USES OF THE PAST IN HISTORY**

Refer to course description under History 228.

Mr. Tanaka/Offered periodically

267 FOREIGNERS PERCEIVED: INTERCULTURAL RELATIONS THROUGH TRAVEL WRITINGS

Refer to course description under History 268.

Mr. Tanaka/Offered periodically

PHILOSOPHY**169 AESTHETICS**

Refer to course description under Philosophy 169.

Ms. Thomas/Offered every other year

283 PHILOSOPHY OF LANGUAGE

Refer to course description under Philosophy 242.

Mr. Derr/Offered every other year

PSYCHOLOGY

194 LANGUAGE, EMOTIONS, THOUGHT, AND CULTURE

Refer to course description under Psychology 194.

Mr. Bamberg, Ms. Budwig/Offered periodically

210 LABORATORY IN LANGUAGE AND COMMUNICATION

Refer to course description under Psychology 210.

Mr. Bamberg/Offered every other year

229 RESEARCH IN THE DEVELOPMENT OF LANGUAGE

Refer to course description under Psychology 229.

Ms. Budwig/Offered periodically

242 PSYCHOLOGY OF LANGUAGE

Refer to course description under Psychology 242.

Mr. Kaplan/Offered periodically

250 COMMUNICATION: VERBAL AND NONVERBAL

Refer to course description under Psychology 250.

Staff/Offered every year

251 LANGUAGE DEVELOPMENT

Refer to course description under Psychology 251.

Mr. Bamberg, Ms. Budwig/Offered every other year

268 COMMUNICATIVE DEVELOPMENT

Refer to course description under Psychology 268.

Ms. Budwig/Offered periodically

280 DEPTH PSYCHOLOGY, DEVELOPMENTAL THEORY, AND THEORY OF INTERPRETATION, PART I

Refer to course description under Psychology 280.

Mr. Kaplan/Offered every other year

281 DEPTH PSYCHOLOGY, DEVELOPMENTAL THEORY, AND THEORY OF INTERPRETATION, PART II

Refer to course description under Psychology 281.

Mr. Kaplan/Offered every other year

SOCIOLOGY

253 MEDIA AND SOCIETY

Refer to course description under Sociology 251.

Staff/Offered every year

VISUAL AND PERFORMING ARTS

Studio Art

100 VISUAL STUDIES—DESIGN

Refer to course description under Studio Art 100.

Mr. Krueger, Mr. Hachey, Staff/Offered every year

120 INTRODUCTION TO PHOTOGRAPHY: THE ZONE SYSTEM

Refer to course description under Studio Art 120.

Mr. Rosenstock, Mr. DiRado/ Offered every semester

121 INTERMEDIATE PHOTOGRAPHY

Refer to course description under Studio Art 121.

Mr. Rosenstock, Mr. DiRado / Offered every year

124 INTRODUCTION TO GRAPHIC DESIGN

Refer to course description under Studio Art 124.

Ms. Buie/ Offered every year

125 GRAPHIC DESIGN PROJECTS

Refer to course description under Studio Art 125.

Ms. Buie/ Offered every year

158 INTRODUCTION TO PRINTMAKING—INTAGLIO

Refer to course description under Studio Art 158.

Ms. Woods/ Offered every year

162 PRINTMAKING—MONOTYPE AND RELIEF PROJECTS

Refer to course description under Studio Art 162.

Ms. Woods/ Offered every year

168 SCREEN PRODUCTION—VIDEO

Refer to course description under Studio Art 167.

Mr. Simon/ Offered every semester

171 SCREEN PRODUCTION PROJECTS—VIDEO

Refer to course descriptions under Studio Art 171.

Mr. Simon/ Offered every year

200 PHOTOGRAPHY PROJECTS

Refer to course description under Studio Art 200.

Mr. Rosenstock, Mr. DiRado, Staff/ Offered every year

208 TYPOGRAPHY

Refer to course description under Studio Art 208.

Ms. Buie/ Offered every year

252 PHOTOGRAPHY STUDIO

Refer to course description under Studio Art 250.

Staff/ Offered every year

254 GRAPHIC DESIGN STUDIO

Refer to course description under Studio Art 254.

Ms. Buie/ Offered every year

262 ILLUSTRATION STUDIO

Refer to course description under Studio Art 262.

Mr. Krueger/ Offered every year

270 PRINTMAKING STUDIO

Refer to course description under Studio Art 270.

Ms. Woods/ Offered every year

278 SCREEN PRODUCTION STUDIO

Refer to course description under Studio Art 278.

Mr. Simon, Staff/Offered every year

Screen Studies

103 INTRODUCTION TO SCREEN STUDIES

Refer to course description under Screen Studies 101.

Staff/Offered every semester

115 HISTORY OF AMERICAN NARRATIVE FILM

Refer to course description under Screen Studies 120.

Staff/Offered every other year

116 SURVEY OF INTERNATIONAL FILM MOVEMENTS

Refer to course description under Screen Studies 121.

Staff/Offered every other year

122 HISTORY OF BROADCASTING AND TELEVISION

Refer to course description under Screen Studies 122.

Staff/Offered every year

231 FILM THEORY

Refer to course description under Screen Studies 231.

Staff/Offered every other year

290 ADVANCED PROBLEMS IN SCREEN STUDIES

Refer to course description under Screen Studies 290.

Staff/Offered every other year

Theater Arts

110 HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING

Refer to course description under Theater Arts 110.

Mr. Schroeder/Offered every year

111 VOICE AND DICTION

Refer to course description under Theater Arts 111.

Mr. Schroeder/Offered every other year

112 THE CREATIVE ACTOR

Refer to course description under Theater Arts 112.

Mr. Munro, Mr. Dilorio/Offered every semester

113 ACTOR AS THINKER

Refer to course description under Theater Arts 113.

Mr. Munro/Offered every semester

114 BASIC TECHNICAL THEATER

Refer to course description under Theater Arts 120.

Ms. Kurki/Offered every year

117 TECHNICAL THEATER II

Refer to course description under Theater Arts 122.

Ms. Kurki/Offered every year

118 SCENERY AND COSTUME PROJECTS

Refer to course description under Theater Arts 125.
Ms. Kurki/Offered every year

119 PUBLIC SPEAKING

Refer to course description under Theater Arts 119.
Mr. Schroeder/Offered every year

123 DESIGN FOR PERFORMANCE

Refer to course description under Theater Arts 123.
Ms. Kurki/Offered every year

126 THE PHYSICAL THEATER

Refer to course description under Theater Arts 126.
Ms. Kurki/Offered every year

128 THE ENVIRONMENTAL STUDIO

Refer to course description under Theater Arts 127.
Ms. Kurki/Offered periodically

219 DIRECTING SEMINAR

Comparative Literature

PARTICIPATING FACULTY

Marvin A. D'Lugo, Ph.D. *program director*: Hispanic literature and film, narrative theory

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, classical mythology, classical art and archaeology

María I. Acosta Cruz, Ph.D.: Baroque literatures, postmodernist narrative

William Ferguson, Ph.D.: Spanish Golden Age literature, twentieth-century Hispanic literature, Spanish literature

Everett Fox, Ph.D.: Jewish ritual and folklore, Classical Jewish thought

Kenneth Hughes, Ph.D.: nineteenth- and twentieth-century European literature, comparative literature, literary theory

Hartmut Kaiser, Ph.D.: German language and literature, German romanticism, the fairy tale, relations between music and literature

Dorothy Kaufmann, Ph.D.: French feminism, literature and existentialism, French and Francophone cultural studies, European novel

Walter Schatzberg, Ph.D.: age of Goethe, German expressionism in literature and the arts, German cinema, relations of literature and science

Michael K. Spingler, Ph.D.: French theater and film, comparative drama, translation

ADJUNCT FACULTY

Martyn J. Bowden, Ph.D.

John Conron, Ph.D.

SunHee Kim Gertz, Ph.D.

Bernard Kaplan, Ph.D.

Philip Rosen, Ph.D.

UNDERGRADUATE PROGRAM

THE MAJOR IN COMPARATIVE LITERATURE: PROGRAM DESCRIPTION

Comparative Literature is a wide-ranging, multicultural program of studies in poetry, prose, drama, film, and related arts. Offered by the Department of Foreign Languages and Literatures, the program is by nature interdisciplinary and has strong ties with several other departments in the University. In addition to the courses offered by the department in comparative literature and literatures in foreign languages, the student is encouraged to take courses in English, humanistic geography, psychology, and visual and performing arts. One of the special aspects of the program is the emphasis on developing a practical and critical approach to texts. This may take the form of play production, seminars in translation of lyric poetry and drama, and supervised work in contemporary critical theory (i.e., relations between text and performance, spectator positioning, and reader response).

A distinctive feature of the program in comparative literature is the Comparative Literature Colloquium. The colloquium serves as the center within which students and faculty meet to discuss issues related to the critical and theoretic approaches to literature and related arts. It is primarily a place for the sharing of ideas and perspectives that may originally have been developed within the context of a particular discipline or research topic. The colloquium frequently invites guests from outside the University, as well as other Clark departments, to make presentations and lead discussions.

PROGRAM REQUIREMENTS

1. No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate-level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
2. A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty advisor.

COURSES

110 PROBLEMS IN COMPARATIVE LITERATURE/Lecture, Discussion

An introductory course in comparative studies of literature from a problem-oriented perspective. The course revolves around five major issues:

1. The Tragic View
2. The Challenge of Faith
3. Man the Measure
4. The Search for Identity
5. The Aesthetics of Ambiguity

Readings include selections from Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.

Mr. Schatzberg, Mr. D'Lugo/Offered every other year

112 THE FAIRY TALES OF THE BROTHERS GRIMM/Lecture, Discussion

Refer to course description under German 112.

Mr. Kaiser/Offered every other year

116 HESSE, KAFKA, MANN/Lecture, Discussion

A study of selected works including Hesse's *Steppenwolf*, Kafka's *The Trial*, and Mann's *Death in Venice*. The focus of the course is on developing

interpretations of individual works and contrasting the author's literary techniques and world views.

Mr. Schatzberg/Offered every other year

**117 INTRODUCTION TO THE HEBREW BIBLE I: NARRATIVE AND LAW/
Lecture, Discussion**

Refer to course description under Hebrew 117.

Mr. Fox/Offered every other year

**118 INTRODUCTION TO THE HEBREW BIBLE II: PROPHECY AND POETRY/
Lecture, Discussion**

Refer to course description under Hebrew 118.

Mr. Fox/Offered every other year

120 THE EPIC JOURNEY/Lecture, Discussion

A comparative and cross-cultural examination of the epic as a recurring literary form. Special attention is paid to the various forms and functions of the hero's journey. Epic journeys may or may not have goals that are clear to the hero; they may be wanderings in unknown parts of the physical world, or they may be representative of various types of spiritual striving and trial. Our task is to define and articulate the various types of epic voyage and to relate their differences and similarities to the values of the societies which gave rise to them. Included in the term's reading are selections (in English translation) from Homer's *Odyssey*, Vergil's *Aeneid*, Appollonius's *Argonautica* and Apuleius's *Ass*.

Mr. Burke/Offered every other year

121 SURVEY OF INTERNATIONAL FILM MOVEMENTS/Lecture, Discussion

Refer to course description under Screen Studies 121.

Mr. D'Lugo, Staff/Offered every other year

123 THE MIDRASHIC TRADITION/Lecture, Discussion

Refer to course description under Hebrew 123.

Mr. Fox/Offered every other year

130 THE MODERN THEME: OUT OF THE PAST/Freshman Seminar

An examination of literary masterpieces that reflect the tension between ideas of the modern and traditional values in art and society. Particular attention is given to the development of the themes of historical consciousness through literature; cultural forces shaping personal identity during different historical periods; the variety of artistic self-consciousness. Readings include representative works by Sophocles, Cervantes, Molière, Flaubert, Borges, Nabokov, Calvino, and Barth.

Mr. D'Lugo/Offered every other year

146 INTRODUCTION TO CINEMA IN SPAIN/Lecture, Discussion

Refer to course description under Spanish 146.

Conducted in English.

Mr. D'Lugo/Offered every other year

147 STUDIES IN SPANISH CINEMA/Lecture, Discussion

Refer to course description under Spanish 147.

Conducted in English.

Mr. D'Lugo/Offered every other year

148 INTRODUCTION TO CINEMA IN LATIN AMERICA/Lecture, Discussion

Refer to course description under Spanish 148.

Mr. D'Lugo/Offered every other year

149 STUDIES IN LATIN AMERICAN CINEMA/Lecture, Discussion

Refer to course description under Spanish 149.

Conducted in English.

Mr. D'Lugo/Offered every other year

150 NEW GERMAN CINEMA/Lecture, Discussion

Refer to course description under German 150.

Mr. Schatzberg/Offered every other year

155 STUDIES IN ITALIAN FILM: NEOREALISM/Lecture, Discussion

Explores the political, cultural, and aesthetic role of neorealist cinema in Italy. The linkage between film, history, and nationality during the years 1942-1951 directs us to broader questions concerning the relations between art and politics in fascist, Resistenza, and contemporary Italian culture. In addition to film texts and selections from the controversial critical debate over neorealism in film and cultural history, we consider both precursors and inheritors of Neorealist cinema.

Ms. Butzel/Offered every other year

**169 PSYCHOLOGY OF LOVE AND HATE IN LIFE AND LITERATURE/
Lecture, Discussion**

Refer to course description under Psychology 256.

Mr. Kaplan/Offered every other year

175 LITERATURE AND EXISTENTIALISM/Seminar

The course is an introduction to major writers and themes of existentialism from Dostoyevsky, Kierkegaard, and Nietzsche to Sartre, Beauvoir, and Camus. Beginning with a study of the cultural origins of existentialism as a distinctively modern, European sensibility, we explore why and how existentialist thought has found expression with unique appropriateness as both philosophical literature and literary philosophy. Enrollment limited to 20. Prerequisite: permission of instructor.

Ms. Kaufmann/Offered every other year

**180 LATIN AMERICAN LITERATURE IN TRANSLATION/Lecture,
Discussion**

Refer to course description under Spanish 180.

Ms. Acosta Cruz, Ms. D'Lugo/Offered every other year

**181 THE LITERATURE OF MODERN SPAIN/SPAIN IN TRANSLATION/
Lecture, Discussion**

Readings representing the major authors and trends in the literature of Spain in the nineteenth and twentieth centuries. Particular emphasis on the realist novels of Galdos and Clarín in the nineteenth century; the philosophical novels of Unamuno and Pérez de Ayala, poetry and theater of Lorca, and the post-modernist narratives of Goytisolo in the twentieth century.

Mr. D'Lugo/Offered every other year

188 THE CULTURE OF THE WEIMAR REPUBLIC IN LITERATURE, FILM, AND THE ARTS/Lecture, Discussion

Refer to course description under German 188.

Mr. Schatzberg/Offered every other year

190 THE PLAY AND ITS STAGES/Seminar, Workshop

A critical approach to the dramatic text based on historical and material conditions of performance. The course considers the changing ways that meanings are made through styles and conventions of performance (including set, costume, mask, and vocal delivery) which are specific to historical and cultural moments. Playwrights considered may include Sophocles, Shakespeare, Racine, Molière, Chekov, Ibsen, Brecht, Genet, and Beckett. There is scene work in class.

Mr. Spingler/Offered every other year

191 FRENCH VERSUS AMERICAN TELEVISION/Lecture, Discussion

Through the analysis of both mainstream and avant-garde video programming from France and the U.S., the course is designed to give students experience in understanding and theorizing different modes of cultural representation. The course uses previously unavailable materials obtained through PICS (Project for International Communications Studies), a consortium of five universities including Clark. Some of the principal questions we ask are: What kinds of critical procedures are useful in analyzing television? What constitutes a television text in different Western nations? How can we understand the relation of television programming to different cultural situations? Reading includes essays on television theory and analysis, and studies of French and American culture.

Ms. Butzel/Offered every other year

193 INTERPRETATIONS OF DREAMS/Lecture, Discussion

Refer to course description under Psychology 260.

Mr. Kaplan/Offered every other year

197 THE FAUST THEME IN LITERATURE AND MUSIC/Seminar

Refer to course description under German 197.

Mr. Kaiser/Offered every other year

205 FEMINIST FILM THEORY AND CRITICISM/Seminar

This course explores the emergence of feminist film criticism from the women's movement of the 1970s and its subsequent "coming of age" via such theoretical frameworks as semiotics, psychoanalysis, and Marxism. Emphasis is placed on understanding the role of critical theory as appropriated by feminist analysis of film and culture. Readings include work by Freud, Lacan, Metz, Mulvey, Kuhn, and DeLauretis. Theory is related to a historical range of international practices, including films by Dulac, Arzner, Deren, Hitchcock, Godard, Ackerman, and Rainer.

Ms. Butzel/Offered every other year

210 POSTMODERNISM/Seminar

A comparative approach to postmodernism from the 1940s to the present. An overview of postmodernism and its theories as a wide-ranging cultural movement is followed by readings and discussions of postmodernist writers who have extended boundaries of genre, authorship, theory, and interpretation of literature. Authors include: Julian Barnes, Jorge Luis Borges, Italo Calvino, Julio

Cortázar, Milan Kundera, Stanislaw Lem, Gabriel García Márquez, Salman Rushdie, Mario Vargas Llosa, Fay Weldon.
Ms. Acosta Cruz/Offered every other year

215 WOMEN'S WRITING IN CONTEMPORARY FRANCE/Seminar

This course is a study of major works of French fiction and theory as they question and illuminate each other. We explore these works in the context of the contemporary French feminist controversy between theories of equality and theories of difference, particularly as they relate to notions of *l'écriture féminine*. Readings include Colette, Simone de Beauvoir, Helene Cixous, Marguerite Duras, Luce Irigaray, Monique Wittig, Julia Kristeva. Prerequisite: permission of the instructor.

Ms. Kaufmann/Offered every other year

230 COMIC MIRRORS AND SELF-CONSCIOUS HEROS IN FRENCH THEATER/Lecture, Discussion

A study of comic tradition of self-referential theater in France touching on the play-within-the-play, masques, masquerades, as well as the ironic exposures of theatrical conventions and parodies of dominant theatrical styles. Closely examines seventeenth-century classicism through contemporary absurdist and avant-garde theater. Representative playwrights include: Molière, Marivaux, Musset, Feydeau, Anouilh, Sartre, Ionesco, and Genet.

Mr. Spingler/Offered periodically

240 STUDIES IN MODERN NARRATIVE FORM/Lecture, Discussion

The course investigates modifications of the traditional novel form in the twentieth century, changes which have enabled the novel to maintain its position as the pre-eminent literary genre. Representative works of the following authors are studied: Joyce, Woolf, Beckett, Thomas Mann, Broch, Gide, Robbe-Grillet, Fowles, Thomas, Doctorow, and García Márquez.

Mr. Hughes/Offered every other year

250 MEDIEVAL LITERATURE/Seminar

Refer to description under English 250.

Ms. Gertz/Offered every other year

251 SEMINAR IN LITERARY CRITICISM/Seminar

Seeks to develop critical sensibilities by concentrating on three major modes of literary criticism: textual, psychoanalytic, and Marxist. We read and discuss both original sources (Freud, Marx, and others) and a wide range of criticism based on their methods. An attempt is made to demonstrate that a complete critical engagement with a literary work must start from a close examination of the text itself, proceed to a consideration of the interaction between text and the author's life and mind, and from there, to an investigation of the social setting that conditions text, life, and mind. In order to unify discussion and development, the seminar centers around a thorough critical occupation with the works, life, and society of Franz Kafka. Primary material includes his short stories, his novel *The Trial*, *Letter to His Father*, and *Letters to Milena*.

Mr. Hughes/Offered every other year

252 CHAUCER/Seminar

Refer to course description under English 251.

Ms. Gertz/Offered every other year

**276 SYMBOLISM IN EVERYDAY LIFE: MYTH, DREAM, AND SYMBOL/
Seminar**

Refer to course description under Psychology 276.

Mr. Kaplan/Offered periodically

277 THE CREATIVE PROCESS/Seminar

Refer to course description under Psychology 277.

Mr. Kaplan/Offered periodically

285 AMERICAN MODERNISMS/Discussion

Refer to course description under English 285.

Mr. Conron/Offered periodically

286 AMERICAN SPACES/Discussion

Refer to course description under English 286.

Mr. Conron/Offered every year

287 STUDIES IN LANDSCAPE/Seminar

Refer to course description under English 287.

Mr. Conron/Offered every other year

288 ART OF THE CITY PROJECT: PARIS/NEW YORK/Discussion

A comparative structural and cultural analysis of two urban designs, Haussmann's Paris and Olmsted's New York; of the visual representation of the two cities by French Impressionists and American School of Ashcan painters; and of the literary interpretation of the cities by two urban poets, Charles Baudelaire and Walt Whitman. The cities will be considered as theaters in which cultural meanings are produced through 1) spatial composition (the city as assemblage of constructed sets, including boulevards and other promenades, monuments, department stores) and 2) performances in the set (the city as dramatized narrative). Among the questions to be explored is the matter of cultural kinships and differences between France and the United States. Prerequisite: Permission of either instructor.

Mr. Conron, Mr. Spingler/Offered every other year

289 ART OF THE CITY: LOS ANGELES/Discussion

Refer to course description under English 289

Mr. Conron/Offered periodically

Computer Science

The Computer Science Program is housed within the Department of Mathematics and Computer Science. For a listing of faculty, consult the faculty listing under the Department of Mathematics and Computer Science.

THE COMPUTER SCIENCE UNDERGRADUATE MAJOR

The department offers a strong program in which computer science is viewed as an essential discipline within the general academic mission of Clark University. In keeping with Clark's liberal arts tradition, the program emphasizes concepts and principles, rather than engineering. The computer science major provides preparation for a variety of career paths, both inside and outside the academic community. The program includes two courses in computer programming, which serve as the general introductory courses for the discipline, and four intermediate courses, which serve as the core requirements for the major and expose the fundamental principles of computer science. Beyond this, a series of elective courses is offered, in which applications and advanced topics are explored.

DECLARING A MAJOR AND CHOOSING A DEPARTMENTAL ADVISOR

The department has a system of advising to assist students with their course selections. A student must declare his/her major no later than the end of the second semester of the sophomore year. At the time a student declares a major, he/she should select an advisor from among the department faculty; the advisor will sign the "declaration of major" form available from the university registrar. This advisor will help the student design the best program of courses to suit his/her goals. A department form also is completed at this time and kept on file at the department office.

REQUIREMENTS FOR THE COMPUTER SCIENCE MAJOR

To graduate as a computer science major a student must complete the following courses:

- A. These two introductory courses:
 - CS 101 *Programming I*
 - CS 102 *Programming II*
- B. These two mathematics courses:
 - Math 114 *Discrete Mathematics*
 - Math 120 *Calculus or the equivalent (Math 124 or the two-semester sequence, Math 110, Math 111)*
- C. These four core courses:
 - CS 140 *Assembly Language and Computer Organization*
 - CS 160 *Data Structures and Algorithms*
 - CS 170 *Analysis of Programming Languages*
 - CS 180 *Automata Theory*
- D. Three of these five elective courses:
 - CS 210 *Artificial Intelligence*
 - CS 215 *Operating Systems*
 - CS 220 *Database Management and Systems Design*
 - CS 230 *Compiler Design*
 - CS 240 *Computer Architecture*
- E. Two of these six elective courses:
 - CS 201 *Proseminar in Computer Science*
 - CS 211 *Topics in Artificial Intelligence*

CS 212	<i>Natural Language Processing</i>
CS 250	<i>Software Design and Development</i>
CS 260	<i>Parallel Distributed Processing</i>
CS 270	<i>Theory of Computation</i>

- F. Cluster of four courses in a related field other than computer science (approved by the student's faculty advisor).

REQUIRED MATHEMATICS COURSES

Discrete Mathematics, Math 114, which covers the concepts, principles, and methods of related mathematics, is required of all majors and should be taken as early as possible by students who may be interested in computer science. This course is essential for most computer science beyond the introductory level. All majors also are required to take one semester of calculus. *Discrete Mathematics* and *Calculus* should be taken during the freshman year, if possible. If both cannot be taken during the first year, preference should be given to *Discrete Mathematics*. These requirements are meant to ensure that all students will have the appropriate mathematical tools in order to study computer science.

HONORS PROGRAM

A major who maintains at least a 3.2 average (4.0 scale) in courses required for the major may apply for the department honors program. A student's application in writing must be directed to a prospective honors advisor or the chair of the department by the end of the student's junior year. Honors may be achieved in one of two ways: (1) a unified four-course sequence as a senior (some parts of which may consist of directed readings), followed by a comprehensive examination; (2) an honors project to be presented at an oral defense or at a department seminar. This project may be an independent or joint research thesis, or it may be a programming project. Supporting coursework may be required. Students interested in pursuing the honors program should consult their department advisor. The student registers for CS or Math 299.8 for course credit for an honors thesis. Upon satisfactory completion of the program, the department may recommend graduation with honors, high honors, or highest honors.

CLUSTERS IN COMPUTER SCIENCE FOR NONMAJORS

Many majors require that a student take a cluster of courses in some discipline other than the student's major field. A suggested cluster in computer science might consist of the two introductory programming courses, the discrete mathematics course, and one or more electives of interest to the student, although there are other possibilities as well. See a member of the computer science faculty for further advice on the design of clusters.

COMPUTER SCIENCE COURSES

100 COMPUTERS AND HUMAN REASON/Lecture, Laboratory

The goal of the course is to gain an understanding of computers and the pervasive role they play in society. We investigate how computers work, and what makes them so powerful. Computers are considered from the perspectives of history, sociology, psychology, philosophy, science, and technology. We survey some of the work in artificial intelligence, the role of computers in cognitive science, and the nature of computer models and theories. Two class meetings and one laboratory meeting per week. The laboratory provides "hands-on" experience and includes programming in Lisp, the language of choice for artificial intelligence. Demonstration programs are available for

experimentation and modification. No prerequisites; open to freshmen. Prior knowledge of computers or programming experience is not assumed.
Mr. Cantor, Mr. Green, Mr. Kilmoyer/Offered periodically

101 COMPUTER PROGRAMMING I/Lecture, Laboratory

An introduction to computer programming using Pascal, a powerful general purpose, structured programming language. The theme of this course is the top-down approach to problem solving. Algorithms are first developed for the solutions to stated problems. These algorithms are then translated into Pascal and tested by running the resulting program on the computer. The top-down approach is used throughout the entire process. For the laboratory component, students are expected to write approximately seven programs throughout the course. Specific topics include decision making, logic design, iteration, arrays, text files, and records. An introduction to the design of data structures through Pascal type definitions, using the primitive data types and the composite types of arrays and records is discussed as well. Applications are presented as they relate to business, computer simulations, and games. This course satisfies the *formal analysis* requirement. No prerequisites. This course is a prerequisite for most higher numbered computer science courses.

Mr. Chou, Mr. Green, Mr. Joyce, Mr. Kilmoyer/Offered every semester

102 COMPUTER PROGRAMMING II/Lecture, Laboratory

A Continuation of CS 101, covering such topics as string manipulation, files of records and their processing, pointer variables, and dynamic data structures such as linked lists, stacks, queues, and binary trees. A treatment of the usage and implementation of recursion also is discussed. Approximately six programming projects are assigned as the laboratory component of the course. These projects entail the top-down design and implementation of larger programs involving the topics mentioned above. Prerequisite: CS 101.

Mr. Chou, Mr. Green, Mr. Joyce, Mr. Kilmoyer/Offered every semester

115 COMPUTER SIMULATION LABORATORY

Refer to course description under Physics 115.

Mr. Gould/Offered every year

120 through 129 SHORT COURSES IN PROGRAMMING LANGUAGES/ Lecture, Laboratory

These are short midsemester courses for 1/4 or 1/2 credit each. Each course will introduce a new programming language to students who already know at least one high level programming language. The prerequisites are one semester college-level programming course and familiarity with DCL and EDT on the VAX computer system. These courses are offered as credit/no-credit and do not fulfill any requirements towards the computer science major. One or two of these courses is/are offered per year.

Mr. Joyce/At least one offered every year

140 ASSEMBLY LANGUAGE AND COMPUTER ORGANIZATION/Lecture, Laboratory

Covers fundamentals of assembly language programming in the VAX/MACRO language such as data representation, the instruction set, addressing mode, macros, procedures, input and output facilities, assembler and linker, introduction to record management system and system services, introduction to logic circuits, and basic machine organization of conventional computers in general and VAX in particular. The goal is to understand how a computer performs various tasks that are completely hidden from the user in a high-level language.

For the laboratory component, students will write several programs in VAX 11 assembly language. Prerequisite: CS 102.

Mr. Chou, Mr. Joyce/Offered every year

160 DATA STRUCTURES AND ALGORITHMS/Lecture, Discussion, Laboratory

Deals with advanced data structures such as sets, trees, and graphs, together with the algorithms to manipulate them. Applications to searching and sorting are discussed. Throughout the course, the analysis of algorithms is stressed. The pros and cons of alternative choices of data structures or algorithms are carefully examined. Topics include: analysis of algorithms (a review of big O notation and simple recurrence relations from CS 102 and Math 114), general trees, balanced trees, priority queues, hash tables, merge-sort, quick-sort, radix sorting and searching, and elementary graph algorithms such as finding the shortest path and constructing a minimal spanning tree. This course has a fourth hour problem solving session. Programming projects are assigned for the laboratory component. Prerequisite: CS 102 and Math 114.

Mr. Chou, Mr. Green, Mr. Joyce/Offered every year

170 ANALYSIS OF PROGRAMMING LANGUAGES/Lecture

Deals with the issues of the design and implementation of programming languages from both the syntactic and the semantic point of view. Emphasis is on the desirable features of programming languages from a comparative standpoint. Topics include: the representation of rules of syntax, using context free grammars, parsing, semantic constructs, control structures, implementation of procedures and parameters, implementation of recursion, and an introduction to the organization of compilers. Attention is given to both compiled and interpreted languages. Functional as well as procedural programming languages are discussed. A typical group term project may be to design and implement a compiler or interpreter for the actual implementation of some language. Prerequisites: CS 102 and Math 114.

Mr. Kilmoyer/Offered every year

180 AUTOMATA THEORY/Lecture, Discussion

Studies the abstract models of machines and languages recognized by them, and introduces the concept of computability. This course not only serves as the theoretical foundation of computer science, but also has wide applications to programming languages, linguistics, natural language processing, compiler design, and software design. It begins with a review of sets, functions, and relations, then continues with finite automata and regular languages, pushdown automata and context-free grammars, grammar transformations and normal forms, and finally the mathematical model of modern computers: Turing machines and computable functions. Some examples of unsolvable problems such as the halting problem and the busy beaver problem will be discussed. This course has a fourth-hour problem solving session. Prerequisite: CS 102 and Math 114.

Mr. Chou, Mr. Green, Mr. Joyce/Offered every year

201 PROSEMINAR IN COMPUTER SCIENCE/Seminar

The presentation of topics in computer science by and for senior undergraduates. These presentations acquaint students with diverse subjects, introduce them to researching known topics, and give them practice in presenting material to their peers. Faculty members will also present some research topics. Possible areas from which the topics may be drawn might include NP-complete problems, machine understanding of natural language, neural networks, the philosophical

debate on the nature of mind and machine intelligence, automated reasoning, theory of computation, expert systems, parallel algorithms. Prerequisites: CS 160 and CS 170.

Mr. Chou, Mr. Green, Mr. Joyce/Offered every year

210 ARTIFICIAL INTELLIGENCE/Lecture, Laboratory

This course focuses on the fundamental ideas of artificial intelligence and on programming in Lisp. Topics included will be problem representation through explicit models, notion of problem state, state variable, feedback and control, network searching, analogy and pattern recognition, natural language parsing, forward and backward deduction using rule based systems, and knowledge representations schemes. Students implement the above ideas through computer programs written in Lisp. Language instruction is provided in Lisp (or Prolog), although no prior knowledge of these programming languages is assumed. Open to all students who have taken at least one semester of programming (in any language).

Mr. Kilmoyer/Offered every year

211 TOPICS IN ARTIFICIAL INTELLIGENCE/Lecture

Selected topics in artificial intelligence are studied in more depth, assuming CS 210, Artificial Intelligence, as a foundation course. Topics may be drawn from the fields of expert systems, knowledge acquisition and representation, logic programming, or the use of artificial intelligence techniques in some application field, such as music. Topics vary from year to year. Prerequisite: CS 210.

Mr. Cantor, Mr. Kilmoyer/Offered every other year

212 NATURAL LANGUAGE PROCESSING/Lecture, Laboratory

This is a course on machine understanding of natural language. Although many topics are presented, emphasis is on the use of conceptual data structures that enable the computer to form semantic representations of natural language input, and on the cognitive processes that underlie natural language understanding by humans. As a term project, students write a story telling program which is given characters with goals and generic plans for achieving goals. The program then produces a story relating the events that transpire when the characters attempt to achieve their goals. Conceptual dependency structures are used to represent the necessary knowledge in the program. Topics include methods of parsing natural language input, recursive transition networks, augmented transition networks, semantic grammars, wait-and-see parsers, the construction of natural language interfaces for computer programs, linguistic theories, case grammars, semantic networks, conceptual dependency theory. Students write programs in Lisp to implement some of the above. Prerequisite: CS 210.

Mr. Kilmoyer/Offered every other year

215 OPERATING SYSTEMS/Lecture, Laboratory

This advanced course studies the structure, performance, and design of operating system. Topics include concurrence, deadlocks, scheduling, and memory management. Various operating systems may be examined and compared. Students will design and implement parts of operating systems. Prerequisite: CS 160.

Mr. Cantor, Mr. Green/Offered every other year

220 DATABASE MANAGEMENT AND SYSTEMS DESIGN/Lecture

An advanced course on the realities of database technology. The course emphasizes the goals of database management: performance, data integrity,

future compatibility, and versatility. The concept of data model is examined and a specific database is discussed. The course concentrates on database design and specification. Prerequisite: CS 160.

Mr. Cantor/Offered every other year

230 COMPILER DESIGN/Lecture, Laboratory

This course is essentially a continuation of CS 180, Automata Theory. It uses the automata and grammars introduced in CS 180 to design translators (compilers) for programming languages. Topics include lexical analysis, top-down parsing, bottom-up parsing, syntax-directed translation, type checking, run-time environment, code generation, and an introduction to code optimization. A typical term project is to write a compiler for a simple programming language such as a subset of C or Pascal. Prerequisites: CS 180 and CS 170.

Mr. Chou, Mr. Green/Offered every other year

240 COMPUTER ARCHITECTURE/Lecture

A study of the design of computers. Topics include the design of combinational and sequential circuits, design methodology of a basic computer, central processor organization, microprogramming, memory organization, input-output organization, and arithmetic processor design. As time permits, further topics, such as RISC and parallel processing, are discussed. A functional, logical (theoretical) approach is adopted. (The *Electronics Laboratory* course in the Physics Department is recommended so that students gain hands-on experience with computer chips.) The science of design is stressed together with the existing machines. Prerequisite: CS 140.

Mr. Chou, Mr. Joyce/Offered every other year

250 SOFTWARE DESIGN AND DEVELOPMENT/SEMINAR

Students will consider the life cycle of large software projects, beginning with the elicitation and definition of users' requirements, and continuing through software design, documentation, coding, testing, and maintenance. Topics include: modularity, coupling, cohesion, transformational and transactional structures, and testing strategies. Working in teams, students gain practical experience developing software to solve concrete problems. Prerequisites: CS 160 and CS 170.

Mr. Cantor/Offered every other year

260 Parallel Distributed Processing/Lecture, Laboratory

An interdisciplinary course on a new paradigm of artificial intelligence, which is also called "neural networks" or "connectionism". This model is characterized by (1) large numbers of simple neuron-like processing elements and weighted connections between them, (2) highly parallel and distributed control and representation of data, (3) processing that is distributed in the pattern of connections and their strengths. Topics include: the general framework for parallel distributed processing, learning algorithms, models based on statistical mechanics (Boltzmann machines etc.), Hopfield nets, and Grossberg's adaptive resonance theory. The emphasis of this course is on the experimental study and intuitive understanding of various networks rather than the formal mathematical analysis of them. Students experiment with the existing implementations and design some of their own. Prerequisite: CS 210.

Mr. Chou, Mr. Kilmoyer/Offered every other year

270 THEORY OF COMPUTATION/Lecture

This course studies the nature and formal models of computation (by computers), its power and limitation (computability versus uncomputability), the

computational complexity of various problems, and the applications in logic and computer science. The question "What is a program?" is answered in full generality, establishing the theoretical underpinnings of all software construction. Turing machines, general recursive functions, and other standard models of computation are introduced and are shown to be equivalent, leading to the formulation of Church's thesis. Other aspects of recursion theory such as unsolvable problems and recursively enumerable languages are introduced. We also address the more practical question "What is an efficient program?" in an introduction to modern complexity theory. Here the emphasis is on the theory of NP-completeness and related notions which have important analogies in classical recursion theory. Prerequisite: CS 180.

Mr. Chou, Mr. Green/Offered every other year

Economics

DEPARTMENT FACULTY

Frank Puffer, Ph.D., *chair*: regional economics, African economic development, health economics

John C. Brown, Ph.D.: economic history

Pius C. Eze, M.A.: health economics

James Peter Ferderer, Ph.D.: monetary theory, macroeconomics, finance

Wayne B. Gray, Ph.D.: labor economics, econometrics, microeconomic theory

Robert C. Hsu, Ph.D.: economic development, comparative economic systems, international economics

Michael Klein, Ph.D.: international economics, macroeconomics

Attiat F. Ott, Ph.D.: economic theory, public finance, health economics, macroeconomics

Don M. Shakow, Ph.D.: Marxist economics, resource and energy economics, econometrics

Roger C. Van Tassel, Ph.D.: international trade and finance, public economy

E.C.H. Veendorp, Ph.D.: microeconomic theory

Maurice D. Weinrobe, Ph.D.: monetary economics, economics of housing

EMERITI FACULTY

Howard W. Nicholson, Ph.D.: history of economic thought, accounting, investment, economic methodology

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions and to help the student develop habits of systematic thought.

GOALS OF THE MAJOR

The rationale for economics majors can be stated briefly and simply: We believe economics offers useful insights into fundamental human behavior in the decision-making process and into a great variety of national issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, in which the contribution of formal economic analysis does not play a necessary role. There are obviously

some advantages in an economics major besides a more broadly accepted educational value. It is a good preparation for law, business, and a number of other professional and nonprofessional careers. However, the emphasis of our program is the educational one. The major in economics is devised to help the student think and develop.

REQUIREMENTS

Economics 10, *Issues and Perspectives*, is prerequisite for all 100-level courses and for Economics 11, *Principles of Economics*. Economics 11 is prerequisite for 200-level courses in the department. Individual courses may carry additional prerequisites. All majors in economics must take Economics 10; Economics 11; Economics 160, *Introduction to Statistical Analysis*; and Economics 205.1 and 205.2, *Microeconomic/Macroeconomic Theory*. A 2.0 grade point average in these core courses is required for credit toward the major. Students are expected to take no less than twelve courses and no more than nineteen courses in economics. Of these courses, at least ten must be offered in the Economics Department, and two may be "related" courses. Special projects or internships do not count toward the requirements of ten economics courses. Two courses at the 200-level must be taken in addition to *Microeconomic Theory* (205.1) and *Macroeconomic Theory* (205.2). Students are advised to complete 205.1 and 205.2 by their junior year and to take no more than five economics courses in any year. Some courses may be offered only in alternate years.

Senior majors with strong records may be accepted by the department as candidates for departmental honors. For students to receive departmental honors, they must successfully complete an honors course or project. All majors may have a department adviser to assist in developing a program of study. Students planning on pursuing graduate work in economics are strongly advised to take mathematical economics and at least one calculus course. Students should refer to the *Undergraduate Economics Handbook* or to an undergraduate adviser for further information regarding requirements, course prerequisites, appropriate sequence of courses, and honors.

GRADUATE PROGRAM

The University offers a program of graduate study and research leading to the doctor of philosophy in economics. Graduate students may elect to take a limited amount of work in related courses offered by other departments.

Scholarships and fellowships are available for well-prepared students. These appointments exempt their holders from tuition fees, and some carry stipends in varying amounts. Several teaching assistantships are also awarded, enabling graduate students to gain experience in undergraduate instruction. These cover remission of tuition and a cash payment, currently up to \$7,600, for part-time work.

An Earhart Foundation Scholarship is awarded every year to an outstanding candidate selected by the Earhart faculty sponsor. The award covers a full tuition plus a cash stipend. No teaching responsibility is attached to the award.

A number of health fellow appointments are made each year. This award covers full tuition plus a cash stipend. Health fellows are expected to engage in research in the health economics field.

Two full academic years of graduate work, or the equivalent in part-time work, are necessary for admission to Ph.D. candidacy. One of these years must be spent in residence at Clark University. "In residence" is broadly defined as work done at Clark University. All candidates for the Ph.D. in economics are required to demonstrate proficiency in economic theory, econometrics, and mathematical economics, and to complete three selected fields.

Econometrics and mathematical economics are satisfied by passing designated courses offered in the department or, in the case of prior preparation, by passing a test given by the department.

The economics theory requirement includes micro-theory and macro-theory. The student meets the economic theory requirement by satisfactory completion of the theory courses, Economics 300, 301.1, 301.2, 302.1, and 302.2, and by passing a six-hour preliminary examination.

Upon completion of economic theory and two of the required special fields, the student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: monetary economics, public finance, industrial organization, international economics, comparative economic systems, advanced theory, regional economics, economic development, labor economics, or one field selected from related subjects. Not all graduate field courses are offered each year. At least two field courses are offered annually. Typically, two fields are taken during the second year, and the remaining field requirement is completed, along with the beginning of the dissertation, during the third year.

Soon after having completed the field requirements, each student is expected to develop a written prospectus of a dissertation. The student then makes a presentation at an informal conference with all graduate students and faculty invited to attend. After the presentation, the primary adviser, in consultation with the chairman, appoints the dissertation committee if the topic is judged feasible.

Upon completion of the dissertation in a form acceptable to the committee, the candidate makes a copy of the dissertation available to the department, the faculty, and graduate students. After a period of approximately two weeks, to permit sufficient time for reading of the dissertation, the candidate presents the dissertation at a seminar open to all faculty and graduate students in the department. Final approval of the dissertation is granted by the committee after consideration of any suggested changes or challenges arising from the seminar. If five years have elapsed from the admission to candidacy, the student must retake the preliminary examination. A dissertation cannot be defended if more than five years have elapsed since the passage of the preliminary examination.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the department instead of a dissertation.

Some teaching and research experience at Clark, or other such teaching and research as the department may regard as equivalent, is prerequisite to the doctoral degree.

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of a two-year residency and preliminary exam. In the case of students who do not continue toward the Ph.D., the M.A. may be awarded upon satisfactory completion of twelve required courses or one-year residency, an M.A. thesis and an oral exam.

A student should discuss program plans with the graduate student adviser on or before registration day, and secure approval of the course program.

INSTITUTE FOR ECONOMIC STUDIES

The Institute for Economic Studies, funded with an initial grant from the John M. Olin Foundation, began its operations in January of 1980. The institute's main objectives are to:

1. research significant economic issues and propose policy options to deal with them; and
2. disseminate the results of the research—particularly its policy recommendations—to a broad audience.

The institute provides a framework within which new curricula and teaching methods may be developed. In addition, a Scholars-in-Residence Program was instituted in 1984 to stimulate the exchange of ideas and dialogue between guest scholars and members of the institute and economics faculty.

The institute director is Professor Attiat F. Ott.

CENTER FOR THE STUDY OF HEALTH ECONOMICS

Clark University's Center for the Study of Health Economics was officially inaugurated in August of 1987 as an integral part of the Economics Department and the Institute for Economic Studies. The primary goal of the center is to conduct research on health economics issues of concern to policy makers, providers, and consumers of health care services. To encourage doctoral students in economics to pursue teaching and research in the field, the center will award fellowships to outstanding Ph.D. candidates.

COURSES

10 ISSUES AND PERSPECTIVES/Lecture, Discussion

The student is introduced to the vital contribution economics can make to systematic thought and understanding by analysis of important current policy issues. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues, the course proceeds to show how development and use of some basic economic concepts can aid materially in the analysis. Open to first-year students. Multiple sections.

Staff/Offered every semester

11 PRINCIPLES OF ECONOMICS/Lecture, Discussion

Introduction to economic analysis. Develops a set of economic concepts utilized in the 200-level courses offered in the department. Elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to first-year students. Prerequisite: Economics 10.

Staff/Offered every semester

88 DIRECTED READINGS

Offered for variable credit.

Staff/Offered every year

89 SPECIAL PROJECTS

Offered for variable credit.

Staff/Offered every year

108 INTERNATIONAL ECONOMICS: TRADE AND FINANCE /Lecture, Discussion

Introduction to the basic principles of international economics. The course examines the development of the international monetary system and current problems. Students planning to take Economics 207 or 208 should not take 108. Prerequisite: Economics 11.

Mr. Klein, Mr. Van Tassel/Offered every year

109 SOCIALIST THOUGHT/Lecture

An exposition of socialist economic theory as a coherent body of knowledge uniquely suited to the analysis of major socioeconomic issues.

Mr. Shakow/Offered periodically

113 MONETARY ECONOMICS: THEORY AND POLICY/Lecture, Discussion
The theory of money and its role in the modern economy are examined, as are determinants of the supply of money and analysis of the role of monetary policy in stabilization policy. Commercial banks and nonbank financial intermediaries are studied.

Mr. Weinrobe/Offered every year

125 HEALTH ECONOMICS/Lecture, Discussion

This course examines the economic processes and activities of health care systems and institutions. Major issues including competition, role of governments, and insurance are among the topics that are investigated to assist students in understanding how economic considerations affect the delivery of care.

Staff/Offered periodically

126 PUBLIC POLICY TOWARD BUSINESS/Lecture, Discussion

Examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced are the development of antimonopoly regulation, consumer protection, and public utilities. Business performance and government regulations are related to criteria from economic theory.

Mr. Veendorp/Offered every other year

128 ECONOMIC DEVELOPMENT/Lecture, Discussion

Covers same general material as Econ. 228, but requires less previous preparation in economics. Offered in alternate years with 228. See course description under Economics 228.

Mr. Hsu/Offered every other year

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT/Lecture

A review of political economic problems associated with such natural resources as agricultural land, energy goods, and minerals—as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market-oriented economy, the potential role of international cartels in resource allocation, and the assessment of nuclear generation from an economic standpoint.

Mr. Shakow/Offered periodically

160 INTRODUCTION TO STATISTICAL ANALYSIS/Lecture, Discussion

Examines basic concepts and techniques of statistical method in economic analysis: descriptive statistics, probability theory, sampling distribution, standardized normal distribution and other related distributions, simple and multiple regression, simple forecasting, and statistical decision making.

Mr. Puffer, Mr. Shakow/Offered every semester

171 FUNDAMENTAL MATH FOR ECONOMICS/Lecture, Discussion

This course introduces the mathematical tools used in economic analysis. After completing this course, the student should feel comfortable with the mathematical techniques likely to be encountered in an undergraduate economics program. Applications are drawn from a variety of fields within economics, but with particular emphasis on microeconomics. Prerequisite: Economics 11.

Staff/Offered periodically

176 COMPARATIVE ECONOMIC SYSTEMS/Lecture, Discussion

Examines the theory and practice of selective cases of capitalism, market socialism and centrally planned socialism. Major topics include the welfare state and industrial democracy of Sweden, industrial policy and corporate groupings in Japan, workers' self-management in Yugoslavia, problems of centrally planned socialism, and the dilemmas of socialist reforms in Hungary and the Soviet Union.

Mr. Hsu/Offered every year

177 CHINESE AND JAPANESE ECONOMIES/Lecture, Discussion

A comprehensive survey of the Chinese and Japanese economies—their development, institutions, and policies. Topics include historical background, agricultural development, industrial organization and development, fiscal and monetary policies, employment and labor, Sino-Japanese relations, and relations with the United States.

Mr. Hsu/Offered every other year

205.1 MICROECONOMIC THEORY/Lecture, Discussion

Describes and analyzes how a market-oriented economy functions in answering the five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors.

Mr. Veendorp/Offered every semester

205.2 MACROECONOMIC THEORY/Lecture, Discussion

Focuses on the forces that affect the overall performance of the economy. A study of the determinants of economic activity (such as consumption, investment, government purchases, and exports) and measures of economic performance (such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). Also deals with specific, current economic problems facing the United States and discusses public policies instituted to deal with them and the repercussions of some of these policies on world economies.

Mr. Ferderer, Mr. Klein/Offered every semester

207 INTERNATIONAL TRADE THEORY/Lecture, Discussion

Applies and develops concepts of economic theory to such topics as: determinants of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade. Prerequisite: Economics 205.1.

Mr. Van Tassel/Offered every year

208 INTERNATIONAL MONETARY THEORY/Lecture, Discussion

This course studies the impact of international trade and investment on macroeconomic policy and problems of the international monetary system. Prerequisite: Economics 205.2 or 207.

Mr. Klein /Offered every other year

209 MARXIST ECONOMIC THEORY/Lecture

An introduction to Marxist economic theory. A comparison is made between the development of Marxist and neoclassical economic analysis. Prerequisite: permission of instructor.

Mr. Shakow/Offered every other year

215 PUBLIC EXPENDITURES/Lecture, Workshop

Examines issues and priorities related to the size and composition of the federal budget and federal programs. Evaluation of federal budget expenditures and program levels according to criteria of cost-benefit analysis and cost effectiveness are carried out. Issues relating to private-public use of resources and how public policy affects these uses are also examined.

Ms. Ott/Offered every other year

216 TAX SYSTEMS AND POLICIES/Lecture, Workshop

Analyzes the federal tax system and U.S. tax policies. Explains emerging issues in federal taxation, including tax equity, the effect on income distribution, the relative tax burden of the rich and the poor, and alternative tax systems, as well as reform proposals to restructure the U.S. tax system. Tax incentives as a goal for economic growth are also discussed.

Ms. Ott/Offered every other year

222 LABOR/Lecture, Discussion

Applies the concepts of labor supply and labor demand in a basic model of labor markets. The model is used to analyze the results of the labor market: wages, employment, and unemployment. The analysis is modified to allow for market imperfections and nonmarket forces, including trade unions and the government. Further topics are discussed, including wage discrimination and income inequality. Prerequisite: Economics 205.1 or permission of instructor.

Mr. Gray/Offered every year

223 CONTEMPORARY POLITICAL ECONOMY/Seminar

Examines the interaction of political and economic forces in evolving capitalist and socialist societies.

Mr. Van Tassel/Offered every year

224 HISTORY OF ECONOMICS: ADAM SMITH AND OTHERS/Lecture, Discussion

Interdisciplinary. Travel in time through reading and discussion of the classics of economic thought. Participate in ancient, classical, and modern debates about human nature, commerce, and social classes; the virtue of spending and saving; and population, progress, property, and laissez-faire. Emphasis is on Adam Smith's *The Wealth of Nations* (1776). Others readings include Locke, Bentham, Malthus, Ricardo, Marx, and Keynes.

Mr. Wendt/Offered periodically

228 ECONOMIC DEVELOPMENT/Lecture, Discussion

Examines the major theories of economic development, the major problems confronting less developed countries, and the policies and strategies appropriate for economic development. Topics include agricultural development, income distribution, industrialization strategies, foreign aid and investment, population, labor, and employment. Offered in alternate years with 128.

Mr. Hsu/Offered every other year

235 ECONOMICS OF HOUSING/Lecture

An examination of the nature of housing, including an investigation of supply and demand in the housing market, the relationship between housing and the aggregate economy, the role of housing finance, and the role of the government in the housing market. Prerequisite: Economics 113.

Mr. Weinrobe/Offered periodically

239 COMPETITION AND ECONOMIC PROGRESS/Lecture

Does competition maintain an economy in static equilibrium? Or is competition a force for economic progress? Emphasis here is on unorthodox theories in which competition fosters progress. Joseph Schumpeter and others consider competition as entrepreneurship and innovation. Economic Darwinists consider competition as struggle for survival and selection. Cooperation in opposition to competition is also considered.

Mr. Wendt/Offered periodically

242 EUROPEAN ECONOMIC HISTORY/Lecture, Discussion

This course applies the tools of economic analysis to help understand the major stages of European economic development, from the feudal economy to the European Economic Community. Primary emphasis is on the industrialization of Great Britain, Germany, France, and Russia, and the postwar restructuring of the European economy.

Mr. Brown/Offered every year

243 AMERICAN ECONOMIC HISTORY/Lecture, Discussion

This course offers a comprehensive survey of the development of the United States economy from a colonial backwater to a leading industrial power. It emphasizes the use of economic reasoning to understand historical controversies such as the struggle over slavery, economic imperialism, and the causes of the Great Depression.

Mr. Brown/Offered every year

244 EUROPEAN ECONOMY: EAST AND WEST/Lecture, Discussion

This course offers a critical examination of European approaches to economic policy. In the West, these include the modern welfare state (widely available health care and housing), a more heavily regulated labor market, and moves toward a common market and currency. In the East, governments relied upon on central planning and state ownership, even scoring some initial successes. Blending the tools of economic analysis with a close look at policies, this course will offer students an approach to answering these questions and an introduction to the economic challenges facing Western and Eastern Europe in the aftermath of the revolutions of 1989.

Mr. Brown/Offered periodically

250 ECONOMICS OF SPORT/Lecture, Discussion

This course applies economic analysis to the sports industry. While the primary focus is on professional team sports, individual and "amateur" sports are covered as well. Labor relations, antitrust law, public subsidization of sports facilities, discrimination, and sports broadcasting are among the topics that are covered from an economics perspective.

Mr. Puffer/Offered periodically

257 RESOURCE ECONOMICS/Lecture, Discussion

This course examines some of the issues associated with the economics of natural resources. Topics discussed are chosen from the following: the theory

and analysis of renewable and nonrenewable resources, resource cartels, resource scarcity and the economy, and environmental economics. Topics are discussed at both theoretical and empirical levels. Proper policies are discussed to encourage resource conservation, the problems of common property resources, and the importance of resource scarcity to the economy. Prerequisite: Economics 205.1.

Staff/Offered periodically

271 INTRODUCTION TO MATHEMATICAL ECONOMICS/Lecture, Discussion

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: permission of instructor. Offered for variable credit.

Mr. Veendorp/Offered every year

273 FORECASTING/Lecture, Discussion

This course investigates a number of forecasting techniques commonly used in economic analysis. Among the techniques covered are time series analysis, econometric models, simulation models, and expectations surveys. Prerequisite: Economics 160 or equivalent.

Mr. Puffer/Offered periodically

282 HONORS

Students work on an individual basis with a faculty member on an intensive piece of research, culminating in an honors thesis. Required for departmental honors.

Staff/Offered every year

299.9 INTERNSHIP

Students spend a semester working full- or part-time outside the University as part of their academic experience. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent, systematic academic work in economics. Offered for variable credit.

Staff/Offered every year

The following courses are normally open only to graduate students:

300 INTRO GRAD ECONOMICS THEORY

Staff/Offered every year

301.1 MICROECONOMICS/Seminar

Mr. Veendorp/Offered every other year

301.2 MICROECONOMICS/Seminar

Mr. Brown/Offered every other year

302.1 MACROECONOMICS/Seminar

Ms. Ott/Offered every year

302.2 MACROECONOMICS/Seminar

Mr. Ferderer, Mr. Klein/Offered every year

313 MONETARY ECONOMICS/Seminar

Mr. Ferderer/Offered every other year

325 PUBLIC FINANCE/Seminar

Ms. Ott/Offered every other year

326 INDUSTRIAL ORGANIZATION/Seminar

Mr. Veendorp/Offered every other year

327 INTERNATIONAL ECONOMICS/Seminar

Mr. Klein/Offered every other year

328 ECONOMIC DEVELOPMENT/Seminar

Mr. Hsu, Mr. Puffer/Offered every other year

329 MODELING AND APPLIED RESEARCH METHODS/Seminar

Mr. Shakow/Offered periodically

333 HEALTH ECONOMICS/Seminar

Mr. Eze/Offered every other year

365 BASIC ECONOMETRIC THEORY/Lecture

Qualified undergraduates may take Economics 365 with the instructor's permission.

Mr. Shakow/Offered every year

366 APPLIED ECONOMETRICS/Seminar

Mr. Gray/Offered every other year

Education

DEPARTMENT FACULTY

Sarah Michaels, Ph.D., *chair*: language, culture, and schooling; discourse analysis; literacy studies

David K. Dickinson, Ed.D.: literacy development, classroom interaction

Sharon Griffin, Ph.D.: emotional development, cognitive development, mathematics education

David S. Zern, Ph.D.: cognitive development, socialization, values and education, religiosity and education

PART-TIME FACULTY

Barbara S. Berka, M.A.: elementary science education

Denis J. Cleary, M.A.T.: secondary curriculum and instruction

Marilyn F. Engelman, Ph.D.: psychoeducational assessment

Patty Jacobs, M.A. in Ed.: creative arts

Kenner H. Myers, M.S. in Ed.: early childhood education

Nathaniel C. Seale, M.Ed.: human services and psychoeducation

Susan D. Starr, M.Ed.: elementary education

AFFILIATE FACULTY

Judy F. Finkel, Ed.D.: school-university liaison

Thomas P. Friend, M.Ed.: school-university liaison

Ronald K. Goodenow, Ph.D.: information technology, international education, urban education

Mauri Gould, B.A.: science education

Elinor M. McKeon, M.Ed.: school-university liaison

John F. Monfredo, M.Ed.: school-university liaison

John T. O'Leary, Jr., Ed.M.: school-university liaison

Alexander J. Radzik, Ed.M.: school-university liaison

Robert T. Sullivan, M.S.: school-university liaison

EMERITI FACULTY

Helen J. Kenney, Ed.D.: curriculum development, instructional theory, psychoeducation, evaluation

William C. Kvaraceus, Ed.D.: measurement, social deviance

UNDERGRADUATE PROGRAMS

The Education Department believes that a broadly based grounding in the liberal arts is essential to the preparation of excellent teachers. Students do not major in education; rather, in conjunction with an academic major, they take sequences of courses and associated field experiences that prepare them to teach or to work in other human service settings. These sequences form an area of concentration that complements a student's academic major.

Teacher Preparation Sequences

Undergraduate programs are designed for students interested in preparing for teaching careers in public and private schools. The department has programs in early childhood and elementary education, as well as in certain secondary education disciplines, that currently are approved by the Commonwealth of Massachusetts. It awards teacher certification for these programs that is accepted by the thirty-one other states and the District of Columbia that share a reciprocity agreement, the Interstate Certification Compact. The Teacher Sequences include:

Early Childhood Education

The early childhood education sequence leads to certification as a teacher in grades K-3 and prepares students to work in nursery school settings.

Elementary Education

The elementary education sequence prepares students to work with children in the elementary-level grades (1-6).

Secondary Education

A program for preparing students to teach at the secondary level is under consideration. This program would require students to have a strong background and training in an academic discipline. Contact Professor David Zern for further information.

Participation in teaching certification sequences is limited to students who maintain a satisfactory level of scholarship in their general programs of studies and who perform acceptably in the academic and field-based courses in the education sequence. Only those students who are making satisfactory progress are accepted into the final practicum experience. The decision to enter one of the sequences must be made by the sophomore year. Students interested in a teaching career are encouraged to consult at the earliest possible date with the

undergraduate program coordinator of the Education Department to discuss their overall program planning. Due to the implementation of new state certification guidelines in 1994, these programs will be undergoing changes in the coming years. These changes make it especially important that interested students contact the department early in their academic career and consult with the department throughout their program of studies.

Human Services Preparation Sequences

The department also offers two sequences that prepare students for work in schools in nonteaching capacities and for careers in various human service-oriented settings:

The Human Services Sequence

The Human Services Sequence is a four-credit sequence that includes a two-semester field experience. It is designed for students interested in pursuing careers and/or graduate study in education and related professional fields, such as social work, rehabilitation, counseling, and guidance. Students' course work and field experiences deal with diverse groups including children, families, and the aged in such settings as schools, the court system, mental health agencies, and correctional and rehabilitation institutions. Students acquire conceptual as well as experiential skills through a balance of study and applied field work. Students completing this sequence will receive an official transcript notation stating the completion of this sequence.

Psychoeducational Clinician Sequence

The Psychoeducational Clinician sequence is a four-credit sequence that provides intensive first-level training for juniors and seniors who are considering advanced graduate work in school psychology and related professional fields. Students are required to complete a two-semester placement ten hours a week under the supervision of a school psychologist and/or a school adjustment counselor. Students completing this sequence will receive an official transcript notation stating the completion of this sequence.

GRADUATE PROGRAMS

The Department of Education is part of the newly established Frances L. Hiatt School of Psychology. Activities sponsored by the Hiatt School enrich the functioning of the department and support a developmental emphasis in its programs.

The department offers a program leading to the degree of master of arts in education, as well as a program leading to the degree of doctor of education. Both programs may be pursued on a full-time or part-time basis. In conjunction with the master of arts degree program, students may obtain certification in early childhood or elementary education.

MASTER OF ARTS IN EDUCATION

This degree program is designed for professionals currently in the field who wish to extend their skills and for those who want to prepare for eventual study at the doctoral level. The program may be used to enrich general theoretical background relevant to a candidate's area of educational practice and to develop new professional skills. Master's candidates center their work in areas where there is depth in course offerings through the resources of the Department of Education and cooperating academic departments in the University.

Persons with a bachelor's degree in another field who wish to enter the teaching profession may complete a certification sequence as part of their program of study.

ADMISSION REQUIREMENTS

General Graduate School admission requirements apply.

DEGREE REQUIREMENTS

The course of study consists of a minimum of eight full course units with an additional requirement to be completed by one of the following options: (1) an acceptable thesis; (2) two additional full courses; or (3) the master's seminar, in which an independent major paper is prepared and presented to fellow graduate students and members of the faculty. The passing of a final oral examination is required of all candidates.

DOCTOR OF EDUCATION

The doctor of education program is an organized course of study and research fostering the achievement of advanced competence in theories, practices, and skills relevant to education. It is designed for experienced practitioners seeking highest-level training and those preparing for careers in institutions of higher learning. A master's degree is required for admission to the program.

All doctoral students complete a core curriculum aimed at imparting a solid understanding of the analytic techniques; the research methods; the cultural, social, and psychological influences; and the pedagogical principles and practices that will prepare them to contribute to the development of new solutions to significant problems in education. Advanced courses offered in the Education Department and in other departments in the University (e.g., Psychology, Management) permit students to round out their program of study to suit their individual interests and career goals.

During the first two years, in addition to course work, students complete four papers to qualify for further doctoral study. Participation in ongoing faculty research is strongly encouraged. Working with an advisor, a student then prepares a dissertation proposal and defends it before a faculty committee. The conduct of the proposed research and its presentation in an acceptable dissertation complete the doctoral program.

A small, select group of graduate students ensures the advantages of program flexibility and close contact between faculty and students. Programs of study are individualized within the constraints of core requirements and departmental, University, and field resources.

ADMISSION AND DEGREE REQUIREMENTS

Contact Department of Education, secretary to the chair, at (508) 793-7221.

COURSES

151 INTRODUCTION TO THE FOUNDATIONS OF EDUCATION/Lecture, Discussion

Introduces students to relationships between cultural and historical forces and current theory and practice. Considers ways in which current American values and beliefs have evolved and influences educational practice at varied levels including the early childhood and elementary school years.

Staff/Offered periodically

152 THE CHILD AND THE EDUCATIVE PROCESS/Lecture

Deals with the educative process, especially as it occurs during the early childhood and elementary school years. Drawing upon behavioral and social science perspectives, the course deals with instructional strategies, classroom interaction, learning processes, education of children from minority backgrounds,

uses of technology in schools, and school reform efforts. Required in sequences leading to early childhood and elementary certification.

Mr. Dickinson/Offered every year

155 EDUCATION AND SOCIAL POLICY/Lecture, Discussion

Examines the relationship between social problems, social policy, and education. Conceptual tools for the analysis of social policies are utilized. Examinations of existing programs and social agencies enable students to understand agency functions, client population, and the relationship between the individual agency and the larger social service network. Emphasis is placed on: social problems and "social solutions," linking individuals and external primary groups with societal resource systems, and the impact of social policy change on individuals and institutions.

Mr. Seale /Offered every year

190 THE EXPERIENCE OF ADOLESCENCE/Lecture, Discussion

Explores adolescent development through theory and research drawn from the behavioral and social sciences and including some fiction as well. Students study and discuss topics of central importance to education during the adolescent years. Special social and interpersonal problems and issues confronting today's adolescent are considered, as well as relevant teaching and learning theories. Students apply the course material to both teachers and students in descriptive and analytic reports.

Mr. Zern/Offered every year

194-195 FIELD EXPERIENCE: SPECIAL EDUCATION AND HUMAN SERVICES/Discussion, Field Placement

These courses provide direct, supervised experience within a wide range of educational and human services agencies. Placements are based upon assessment of students' experience, goals, and academic backgrounds. Placement possibilities include schools, mental health centers, institutions, the courts, substance abuse centers, crisis agencies, and group homes. A concurrent weekly seminar provides the opportunity for students to analyze their field work experience. Special note: These courses may be taken as a full-year, two-course sequence (Education 194 and 195) or as a single course either semester (Education 194).

Mr. Seale/Offered every year

201 EDUCATIONAL PSYCHOLOGY/Lecture, Discussion

This course considers both the nature of the learner throughout the school years and the educative process in general. Theories of teaching, learning, and individual development, as well as methods of evaluation, are considered as they are applied both inside and outside of the classroom.

Mr. Zern/Offered every year with COPACE

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING/Lecture, Discussion, Field Placement

A dual focus is on: (1) illustration and analysis of various cognitive and social interpersonal models of teacher and student behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting. Students carry out a series of assigned observational tasks and execute their own individual projects. Refer to Psychology 211.

Mr. Zern/Offered every year

230 THE INSTRUCTIONAL PROCESS/Lecture, Seminar

Examines the goals and underlying values of the school experience with particular reference to the theoretical and empirical literature relevant to the role of the teacher, instructional theory, and evaluation of learning. Various teaching models, traditional and contemporary, are analyzed and critiqued. Classroom observations are required.

Mr. Cleary/Offered every year

246 HISTORY OF AMERICAN EDUCATION/Seminar

Refer to course description under History 246.

Mr. Koelsch/Offered every year

252 YOUNG CHILDREN AND THE ARTS/Lecture, Discussion, Studio

The development of children's abilities to express themselves through varied symbolic forms is examined. There also is studio time during which students are asked to express themselves using different media. Classroom instructional applications at the early childhood and elementary levels are explored. No prerequisites.

Staff/Offered periodically

254 DISCOVERING PHYSICS/Laboratory

Refer to course description under Physics 102. Education 254 is open to Education graduate students only. Undergraduate students need to register for Physics 102.

Mr. Blatt, Mr. H. Gould, Mr. M. Gould/Offered every year

261 DEVELOPMENT OF A SENSE OF SELF/Seminar

Stages in the development of an adult sense of self will be examined by adopting three assumptions: (a) one's sense of self is constructed; (b) it includes both cognitive and affective components; (c) it is formed in the context of interpersonal relations. A constructivist theory (Case) will provide an integrating framework for a critical review of diverse theories (Kegan, Fast, Erikson, Higgins) and research findings on this topic. Emotion possibilities and vulnerabilities inherent in each successive sense of self will be considered, and selected research on self-conscious emotions (pride, shame, guilt) reviewed. Educational implications will also be discussed.

Ms. Griffin/Offered every year

**263 DISEQUILIBRIUM AS A FACILITATOR OF THE EDUCATION PROCESS/
Lecture, Discussion, Seminar**

A consideration of the manifold guises of guidance and/or pressure and their positive influence on the nature of cognitive and emotional development. The value of inducing disequilibrium as a stimulus to the education of individuals and groups will be treated from a large variety of theoretical perspectives (including that of psychoanalysis, Piaget, psychological anthropology, F. Kluckhohn, biology, and religion).

Mr. Zern/Offered periodically

**264 DESIGNING INSTRUCTION FOR THE DEVELOPMENTAL NEEDS OF
THE CHILD/Lecture, Discussion, Class Exercises**

Lectures and classroom exercises will be used to (1) examine some central knowledge structures children acquire during the preschool and elementary years and the ways these structures influence school learning; (2) examine the ways these structures develop and the forms they assume for typical and atypical children; and (3) provide opportunities for students to develop skills

in developmental assessment and instructional programming. In course exercise and assignments, students will use their understanding of children's development to design classroom and remedial learning activities which meet children's individual needs.

Ms. Griffin /Offered every year

265 EMOTIONAL DEVELOPMENT/Seminar

This course will examine what emotions are placed and how they develop from birth to adulthood. Particular emphasis will be placed on emotional development during the childhood years; on the ways emotions are shaped by cognitive, social, and biological factors; and on the ways emotions themselves shape learning and behavior.

Ms. Griffin/Offered every year

266 PSYCHOEDUCATIONAL ASSESSMENT METHODS/Lecture, Discussion, Practicum

The goal of this course is for students to become thoroughly familiar with the theory of assessment, the tools used for assessments, and the use of assessment data. Focus is placed on understanding, administering, and interpreting both formal and informal assessment tools, including tests of cognitive ability, scholastic achievement, and perceptual abilities. Students are required to administer several test batteries and to write case histories.

Ms. Engelman/Offered every year

268 PSYCHOEDUCATIONAL PRACTICUM AND SEMINAR/Seminar, Field Placement

This field-based course provides a two-semester placement, eight to ten hours a week, with the pupil personnel department of a public school system. Each student is placed with a school psychologist and/or a counselor who functions as an ongoing supervisor. Practicum activities include supervised experience in conducting and interpreting psychoeducational assessments, obtaining social and developmental history information through home visits, and observing and participating in the development of individualized educational plans as part of the team evaluation process.

Mr. Seale/Offered every year

269 THE SKILLED HELPER/Lecture, Discussion, Practicum

An introductory experience designed for the development of the helping professional. Emphasis is placed on: dynamics of the helping relationship, basic interviewing skills, and approaches to counseling. Class exercises are utilized to facilitate skill development. Students who are not concurrently taking a field course are placed in a human service agency one half day per week.

Mr. Seale/Offered every year

271 FIELD EXPERIENCE SECONDARY SCHOOLS/Seminar, Field Placement

A field-based introduction to methods of teaching in the secondary school. Students work in a classroom to learn about planning instruction and managing classrooms. Differences and needs of individual students are emphasized. The course consists of (1) a field component of five hours per week and (2) a weekly University seminar.

Staff/Offered periodically

280 CROSS-CULTURAL PERSPECTIVES ON THE ACQUISITION OF LITERACY/Seminar, Discussion

The acquisition of literacy is set in a cultural perspective that emphasizes the varying functions of language and literacy in diverse societies. Issues are addressed using historical and anthropological analyses of contemporary cultures. Educational programs that build on recent research on literacy development are reviewed.

Mr. Dickinson/Offered every year

282 FIELD EXPERIENCE IN THE ELEMENTARY SCHOOL/Seminar, Field Placement

Provides an initial experience in the elementary classroom and an introduction to the elements of teaching: curriculum planning, instructional strategies, classroom management, etc. Students spend five hours per week in an assigned classroom assisting the teacher and working with small groups of children. In teams, students develop and teach a unit of instruction. A weekly seminar addresses classroom experience and considers issues relating to multicultural and special needs students in the regular school setting.

Ms. Starr/Offered every year

284 THE EARLY CHILDHOOD EDUCATOR: THEORY AND PRACTICE/Seminar, Field Placement

Each student spends six hours a week in a field placement and attends a weekly two-hour seminar. Daycare centers, nursery schools, and kindergartens are considered field sites. Seminar sessions address the nature of the developing child from infancy to age eight, the early childhood curriculum, the role of the teacher, and the effects of family and society on the learning child.

Ms. Myers/Offered every year

285 INSTRUCTIONAL METHODS FOR FACILITATING LITERACY DEVELOPMENT/Seminar, Discussion, Field Placement

Deals with methods used for helping children become literate. Includes consideration of methods for supporting emergent readers and writers, approaches to decoding and reading comprehension instruction, techniques for helping children learn to write, and methods of encouraging oral language development. Other topics covered include informal assessment, parental involvement in reading programs, and the impact of cultural differences on classroom discourse. Two hours each week are spent in field settings; students must set aside morning hours for this purpose. Prerequisite: Ed 282.

Mr. Dickinson/Offered every year

287 CURRICULUM AND INSTRUCTION IN MATHEMATICS/Lecture, Discussion, Field Placement

Designed to give students a working knowledge of (1) the manner in which mathematical understanding develops across the preschool and elementary years, (2) instructional techniques and curriculum materials to foster this development in the classroom, and (3) methods to assess learning outcomes and teaching effectiveness and (4) recent research on mathematics learning and teaching. Twenty hours of field experience are required.

Ms. Griffin/Offered every year

288 INTERNSHIP MODULE IN ELEMENTARY EDUCATION

This integrated internship provides an intensive experience in elementary schools (grades 1-6) in the Worcester area. It involves a full-time, supervised practicum, including theoretical course work, seminars, and conferences. The elementary module provides credit in the following areas:

288.1 Practicum /Field Placement**288.2 Critical Issues in Elementary Education/Seminar****288.3 Individualized Instruction and the Integrated Curriculum/Lecture, Discussion****288.4 Creative Arts and Education/Workshop**

In addition to the 288 sequence, workshops in health and physical education for elementary school children are required. Limited to seniors who have completed major requirements and who meet departmental requirements for admission to the internship module.

Ms. Myers, Staff/Offered every year

289 INTERNSHIP MODULE IN EARLY CHILDHOOD EDUCATION

Provides an intensive experience in the early school grades (K-3) in the Worcester area. It involves a full-time, supervised practicum, including theoretical course work, seminars, and conferences. The early childhood module provides credit in the

following areas:

289.1 Practicum/Field Placement**289.2 Critical Issues in Early Childhood Education****289.3 Individualized Instruction and the Integrated Curriculum/Lecture, Discussion****289.4 Creative Arts and Education/Workshop**

In addition to the 289 sequence, workshops in health and physical education for young children are required. Limited to seniors who have completed major requirements and who meet departmental requirements for admission to the internship module.

Ms Myers, Staff/Offered every year

299.1 DIRECTED READINGS - UNDERGRADUATE

Independent study for qualified students on a selected topic. Permission of instructor required. Offered for variable credit.

Staff/Offered every year

299.4 FIELD PROJECT - UNDERGRADUATE

Provides individualized and extended experiences in a wide variety of educational and human service agencies and institutions. Supervision is provided by the University and field agency personnel. Combines related seminars, conferences, and readings as a basis for critical analysis of the experiences within the context of applied theory and practice. Offered for variable credit.

Staff/Offered every year

308 PSYCHOLOGICAL PRINCIPLES APPLIED TO EDUCATION AND TEACHING/Lecture, Discussion

An analysis of a number of major psychological theories is made. Each model is then applied to educational issues of particular relevance to the students. Assignments also focus on succinct applications to educational themes. Considers such theorists as Freud, Skinner, Piaget, R. White, Rogers, and Wertheimer

Mr. Zern/Offered every year

343 ANALYSIS OF THE RESEARCH PROCESS/Lecture, Discussion

Focuses on understanding the structure and intent of a research report. The form of the course consists of the careful analysis of existing educational research. Sources are considered in terms of particular elements in their overall structure, including hypothesis formation, operationalization of major terms, research design, etc.

Mr. Zern/Offered periodically

350 EDUCATIONAL PROCESSES IN THE SCHOOL AND HOME/Seminar

This course will review research on classroom processes, focusing on work dealing with classroom discourse from sociolinguistic, ethnographic, and Vygotskian perspectives. Research dealing with language usage in the home and work on home-school relationships also will be discussed. The course will operate as an advanced seminar. Students may conduct original research using the instructor's data, using data they collect, or they may do a library research project.

Mr. Dickinson/Offered every year

371 THESIS RESEARCH

Individual research related to the doctoral dissertation. Students meet with members of their dissertation committee for assistance with their dissertation study. Advising conferences are scheduled as needed by the individual student with committee members. The chair of the dissertation committee coordinates the advising process. Offered for variable credit to be determined by the dissertation chair.

Staff/Offered every year

380 DEPARTMENTAL MASTER'S SEMINAR/Presentations, Discussion

Designed for master's degree candidates who are not writing a thesis. Requires a major analytic paper on a significant educational problem or issue, which may include an empirical or practical component. Students meet individually and in small groups to develop a topic focus and to discuss relevant research and professional literature.

Staff/Offered periodically

383 HUMANITIES SEMINAR: LEARNING AND KNOWING/Lecture, Discussion

An interdisciplinary study of the variety of ways we learn and know. The focus is a consideration of the various and often conflicting views of the ideal of the educated person.

Mr Overvold/Offered every year with COPACE

399.1 DIRECTED READINGS - GRADUATE

Independent critical analysis of literature related to individual research. Offered for variable credit.

Staff/Offered every year

399.2 DIRECTED RESEARCH - GRADUATE

Individual research with direction from an instructor. Offered for variable credit.

Staff/Offered every year

English

DEPARTMENT FACULTY

- Serena S. Hilsinger, Ph.D., *chair*: modernist literature, women writers
Thomas F. Berninghausen, Ph.D.: American literature, Modernism, literary theory
Charles S. Blinderman, Ph.D.: science and literature, Victorian literature, etymology
John J. Conron, Ph.D.: American literature, American landscape, American culture, fine arts
James P. Elliott, Ph.D.: American literature, literary theory, textual editing
SunHee Kim Gertz, Ph.D.: Chaucer, medieval literature, literary theory
Fern Johnson, Ph.D., *provost*: sociolinguistics, feminist linguistics, communication
Leone Scanlon, Ph.D., *director of writing center*: composition
Maren E. Stange, Ph.D., *coordinator of program in Communication Studies*: communication, American culture
Stanley Sultan, Ph.D.: modernist literature, literary theory, Anglo-Irish literature
Virginia M. Vaughan, Ph.D.: Shakespeare, Renaissance drama, Renaissance poetry and prose
David F. Venturo, Ph.D.: English literature, 1660-1830; history and literature

ADJUNCT FACULTY

- William Ferguson, Ph.D., associate professor of Spanish
Bernard Kaplan, Ph.D., professor of psychology

PART-TIME FACULTY

- Louis Bastien, M.A.
Nancy Cook, M.A.
James Dempsey, M.A.
Anne Goble, M.A.
Robert Long, M.F.A.
Paul Wilkes, M.S.

EMERITI

- Karl O.E. Anderson, Ph.D.
William H. Carter Jr., Ph.D.
Jessie C. Cunningham, Ph.D.

UNDERGRADUATE PROGRAM

Students wishing to major in English must select an area of specialization, which may draw on resources outside the department. The English program is designed to meet the needs and interests of nonmajors as well as majors. We aim to assist all students in developing skills in close reading, critical thinking, and effective writing, as well as in acquiring knowledge and experience valuable to any vocation. The program encourages the development of a sense of cultural history, a sensitivity to literary values, and a firsthand knowledge of important authors, works, and periods of literature in English.

During the freshman year, the prospective English major may wish to take, or to begin, a two-semester historical sequence. These include *English Poetry* (110-111); *English Drama* (122-123); *English Fiction* (131-132); *Fiction By Women Writers* (133-134); and *Major American Writers* (180-181). In the

sophomore year, majors normally continue their work in these historical overviews. Also during this year, the major selects—in consultation with an advisor and other appropriate members of the staff—a suitable area of specialization. An area of specialization, a required part of the English major, permits each student to choose from a wide variety of recommended courses, both inside and outside the English Department, that are related to the particular periods, themes, or activities appropriate to the student's special interests. A major specializing in literary criticism and aesthetics, for example, might take relevant courses in comparative literature, linguistics, philosophy, intellectual history, psychology, and in arts other than literature. Other popular areas of specialization are literature of the Renaissance, American literature and culture, twentieth-century literature, women's studies, communication studies, and writing (including journalism). Students wishing a double major and/or a formal academic concentration—i.e., women's studies, communication studies, peace studies, American studies, etc.—may make the second major or the concentration the basis for their area of specialization. Or, students—with the approval of their advisers and the department—may design their own areas of specialization. The department encourages extensive and intensive consultation between majors and their advisers.

The basic program for all English majors may be summarized as follows. It should be noted that some courses fulfill more than one requirement and that some courses, by arrangement through the Worcester Consortium for Higher Education, may be taken at Assumption College and the College of the Holy Cross.

The English Department is part of the Alice Coonley Higgins School of Humanities.

SUMMARY PROGRAM FOR ENGLISH MAJORS

Nonrequired Preparatory Courses:

- English Writing/Workshop* (IDND 15)
- Expository Writing/Workshop* (IDND 18)
- 19 *The Essay: Reading and Writing/Workshop*
- 20 *Introduction to Literature and Composition*

General Requirements:

- A. 110, *English Poetry I*
- B. Two of the following four historical groupings of courses:
 - 1. 110-111, *English Poetry I & II*
 - 2. 122-123, *English Drama*
 - 3. 131-132, *English Fiction*; or 133, *Fiction by Women Writers, 1688-1899* and 134, *Modern Fiction by Women Writers*
 - 4. 180-181, *Major American Writers*
- C. One 200-level seminar in criticism from the following:
 - 142, *Psychology as a Human Science*; 241, *Mythopoetic Mode*; 242, *Psychology of Language*; 243, *The Psychology of Love & Hate in Life and Literature*; 244, *Interpretation of Dreams and Other Products of the Imagination*; 245, *The Creative Process*; 246, *Psychology, Literature and Language*; 247, *Symbolization and Symbolic Action*; 248, *Contemporary Literary Theory*; 249, *Signs and Crossroads: Semiotic Theory and Practice*; 264, *Rise of the Sublime*; 281, *American Literary Renaissance*; 340, *Introduction to Graduate Study in English*; Comp. Lit. 251, *Seminar in Literary Criticism*
- D. Area Requirements:
 - To develop greater historical perspective and awareness of the range and variety of English and American literature, all majors must take at least:

1. Two full courses or seminars dealing with English literature written before 1700. (One of these courses may be 100-level, i.e.: 120, *Introduction to Shakespeare*; 111, *English Poetry II*; 122, *English Drama*; or 150, *Medieval Literature*.)

The 200-level courses fulfilling this requirement include: 250, *Medieval Literature*; 251, *Chaucer*; 253, *Advanced Studies in Shakespeare*; 255, *Studies in the Renaissance*; 294, *History of the English Language*.

2. Two full courses or seminars dealing with English or American literature written between 1700 and 1900. (One of these courses may be 100-level, i.e.: 123, *English Drama*; 131 or 132, *English Fiction*; 133, *Fiction by Women Writers*; 162, *Satanic Heroes from Milton to the Brontes*; 163, *Gothic Fiction*; 180-181, *Major American Writers*.)

The 200-level courses fulfilling this requirement include: 260, *Special Topics in Eighteenth-Century Literature*; 261, *The Augustan Age*; 262, *Jane Austen*; 263, *British Romantic Literature*; 264, *The Rise of the Sublime*; 265, *Victorian Literature I*; 266, *Victorian Literature II*; 267, *Darwinism*; 280, *Early American Literature*; 281, *American Literary Renaissance*; 283, *Visions of Representation: 1860-1920*; 284, *Studies in Nineteenth-Century American Literature*; 286, *American Spaces*; 288, *Art of the City: Paris and New York*.

- E. Every major's program must include at least four full-semester courses at the 200-level in English in addition to the required seminar in criticism ("C." above). A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's advisor in the English Department as being meaningfully related to the student's overall program of English studies. The 200-level courses of the Comparative Literature Program such as Comparative Literature 230, 240, and 251 are especially recommended.

HONORS PROGRAM

Students who wish to take honors in English should identify an area of interest, choose an appropriate honors advisor, and apply to the department chair before the end of the junior year. See English 2998, *Honors in English*, for details.

DIRECTED RESEARCH OPPORTUNITIES

During their junior and senior years, English majors are encouraged to experience professional literary scholarship by engaging in research with a professor of the student's choice. The research may take several forms: It may be funded by a grant; it may be undertaken for course credit; or it may be in the form of a special project. Past research projects have included work on the scholarly editions of James Fenimore Cooper's texts, studies on American women writers, investigation of the theater history of *The Tempest* and *Othello*, review of commentaries on classic twentieth-century drama, and studies in Darwinism. Interested students should contact their advisers to see if such work is suitable to their area of specialization.

INTERNSHIP OPPORTUNITIES

In cooperation with the University's Internship Office, the English Department administers an internship program for juniors and seniors. Internships are available both in University offices and beyond the campus—in newspapers, news departments of radio and television stations, periodical and book publishers, and communication departments. Internships can in most cases be integrated into the student's chosen specialization.

GRADUATE PROGRAM

The University offers a program leading to the master of arts degree in English. Scholarships providing tuition remission are available, and teaching assistantships (half-time teaching and half-time study)—with stipends ranging up to \$7,100 plus tuition remission—are available for superior students. For the master of arts, the student must complete satisfactorily at least eight full upper-level courses or seminars, which include 340, *Introduction to Graduate Study*; 396, *Thesis Colloquium*; and 397, *Master's Thesis*. In addition to completion of the master's thesis (English 397), the student must pass a final oral examination.

COURSE NUMBERS AND LEVELS

The "10-20" designation indicates preparatory writing courses which do not satisfy major requirements. English 20, *Introduction to Literature and Composition*, satisfies the University's *verbal expression* requirement.

The "100" designation indicates courses taught at introductory or intermediate levels.

The "200" designation indicates courses taught at the advanced level.

The "300" designation indicates courses taught at the graduate level.

10-20

1100-109

200-209 Writing courses (includes IDND 15 and IDND 18)

110-119 Genre courses: Poetry

120-129 Genre courses: Drama

130-139 Genre courses: Prose narrative

140-149

240-249 Courses in critical theory

150-159

250-259 Medieval and Renaissance literature

160-169

260-269 18th & 19th Century English literature

170-179

270-279 20th Century English literature

180-189

280-289 American literature

190-199

290-299 Language and communication

Writing Program

PROGRAM FACULTY

Leone Scanlon, Ph.D.: director

Peggy Kocoras, M.A.

Christine Thorn, M.A.

Several additional part-time staff, carefully chosen for their teaching experience and expertise, also teach each semester in the writing program.

Writing courses are listed as "Interdepartmental/Nondepartmental (IDND)" because the teaching of writing at Clark is considered the responsibility of the entire faculty, not of any one department. IDND 15 and IDND 18, listed below, are, for some students, prerequisites to courses that meet the University's *verbal expression* requirement. These courses are listed under various departments.

IDND 15 ENGLISH WRITING/Workshop

Designed to prepare students to do college-level writing, the course is required of some students on the basis of placement screening. Through frequent writing and rewriting, the course works to develop fluency, organizational and editing skills, and mastery of basic sentence structure. No credit is granted for this course.

Ms. Kocoras/Offered every year

IDND 18 EXPOSITORY WRITING/Workshop

Centered on student writing, the course teaches the writing process, emphasizing revision. Readings and writing assignments concern the study of language in such fields as advertising, journalism, and politics. Students will write essays, informal exercises, and a short investigative paper. This course is required of some students.

Staff/Offered every semester

IDND 162 WORKSHOP FOR WRITING ASSISTANTS

Limited to and required of students assisting in first-year seminars and *verbal expression* courses, this workshop focuses on how to facilitate writing groups, diagnose writing problems, and review papers.

Ms. Scanlon/Offered every semester

DEPARTMENT COURSES

19 THE ESSAY: READING AND WRITING/Workshop

This course is designed to help students who have acquired competence in expository prose to improve their style and rhetorical competence through reading and writing essays. The reading includes essays by such writers as Alice Walker, Annie Dillard, Frederick Douglass, and Stephen Jay Gould. Extensive writing and rewriting will be done. The course meets the University's *verbal expression* requirement.

Ms. Scanlon/Offered every year

20 INTRODUCTION TO LITERATURE AND COMPOSITION/Discussion

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama. Small classes and limited reading lists help establish an atmosphere conducive to significant class discussion; emphasis is placed on writing effectively about literature. This course satisfies the University's *verbal expression* requirement. Strongly recommended for prospective English majors. No student may take more than one section of English 20.

Staff/Offered every year

102 DOCUMENTARY WRITING/Workshop

This course, designed especially for students concentrating in communication

studies, emphasizes writing skills important in communication fields. Course work offers practice in composing effective documentary texts that incorporate narrative, exposition, dramatization, captions and interviews. Students' projects in several media are presented in class. Not open to freshmen.

Ms. Stange/Offered every other year

103 LITERARY RESEARCH AND WRITING/Workshop

This course gives students instruction in word processing as well as in methods of writing professional research papers in expository prose. The entire semester is spent on the production of one long paper that is to meet a requirement for another course (not necessarily in the English Department) which the student is taking concurrently. Meets the University's *verbal expression* requirement.

Ms. Gertz/Offered every year

105 WRITING FOR NEWSPAPERS/Workshop

This course teaches the basics of newspaper writing, both 'hard' news and features. Seminars will cover such topics as: recognizing news; generating the story idea; gathering information; and writing and editing the final story. Discussions will also include editorializing, investigative techniques, and interviewing. Students will be required to complete various off-campus assignments such as reporting on governmental meetings and reviewing entertainment events. Prerequisite: permission of instructor.

Mr. Dempsey/Offered every year

106 CREATIVE WRITING: FICTION/Workshop

This is a course designed to cultivate and guide student work chiefly in the short story, but students may also work with personal memoirs. Class meetings deal largely with important aspects of the art of fiction; published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: 20, *Introduction to Literature and Composition* or any higher literature taught in any department or permission of the instructor. Graded only on a credit/no credit basis.

Mr. Long/Offered every year

107 CREATIVE WRITING: POETRY/Workshop

This course will focus on prosody and other elements of poetry, and on the writing of narrative, lyric, and dramatic poems. Not open to freshmen. Prerequisite: 20, *Introduction to Literature and Composition* or any higher literature taught in any department or permission of the instructor. Graded only on a credit/no credit basis.

Mr. Long/Offered every year

110 ENGLISH POETRY I/Lecture, Discussion

The sequence 110-111 focuses on the development of the most important forms, themes, and movements in English poetry. This course, required for the English major, emphasizes intensive study and discussion of individual poems. It includes a series of essays on assigned topics and fulfills the University's *verbal expression* requirement.

Ms. Hilsinger, Mr. Sultan, Mr. Venturo/Offered every semester

111 ENGLISH POETRY II/Lecture, Discussion

This is the sequel to *English Poetry I*. Poetry by Yeats, Dickinson, Wordsworth, Pope, Milton, and a group of Renaissance lyric poets is studied in that order (reverse chronology).

Mr. Sultan/Offered every year

120 INTRODUCTION TO SHAKESPEARE/Lecture

Designed for any student who wants an introduction to Shakespeare, this course studies several major plays in detail, stressing interaction of plot and character while relating each play to common human situations and moral dilemmas. Particular attention is paid to *values*, as they are inscribed into plot situations and interrogated by major characters. At least six plays will be read, including one major tragedy. Meets the University's *values perspective* requirement. Prerequisite: *verbal expression* course or permission of the instructor.

Ms. Vaughan, Ms. Gertz/Offered every year

122 ENGLISH DRAMA I/Lecture

This course is the first half of a survey of drama and its historical and social context in English-speaking countries. It covers the medieval theater and the drama of Renaissance England to the closing of the theater in 1642 by the Puritan republic. Prerequisite: *verbal expression* course.

Ms. Vaughan/Offered every other year

123 ENGLISH DRAMA II/Lecture

This course is the second half of a survey of drama in its historical and social context in the English-speaking countries. It covers the three centuries from the restoration of the English monarchy and the reopening of theaters in 1660 to the 1970s. Prerequisite: *verbal expression* course.

Mr. Sultan/Offered every other year

131 ENGLISH FICTION/Lecture, Discussion

The sequence 131-132 explores British narrative and fictive modes from the eighteenth century to the High Modernist period. In this course texts include: *Moll Flanders*, *Pamela*, *Joseph Andrews*, *Rasselas*, *Tristram Shandy*, *Emma* and *Frankenstein*. Close attention is paid to texts, their intellectual, historical, and biographical contexts, and to recent critical approaches to prose fiction.

Mr. Ventura/Offered every other year

132 ENGLISH FICTION/Lecture, Discussion

This course continues the exploration of British narrative and fictive modes. Writers studied include Thackeray, Dickens, Eliot, Carroll, Hardy, Woolf, and Joyce. Close attention is paid to texts, their intellectual, historical, and biographical contexts, and recent critical approaches to prose fiction.

Mr. Ventura/Offered every other year

133 FICTION BY WOMEN WRITERS, 1688-1899/Lecture

Authors studied include Behn, Burney, Austen, Bronte, Eliot, Gilman, Chopin. The emphasis in this course is upon these women authors' and their characters' reactions to, and interactions with, the atmospheres and landscapes of their respective ages. Prerequisite: *verbal expression* course or permission of instructor.

Ms. Hilsinger/Offered every other year

134 MODERN FICTION BY WOMEN WRITERS/Lecture

This course is concerned with works written in the twentieth century that provide portraits of women in all stages and conditions of life, rendered in a broad spectrum of fictional techniques. The selection of authors and works is based on three major concerns: that the literature represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. Authors studied include Gertrude Stein, Djuna Barnes, Katherine Mansfield, Virginia Woolf, Katherine

Ann Porter, Zora Neale Hurston, and Iris Murdoch. Prerequisite: *verbal expression* course or permission of instructor.

Ms. Hilsinger/Offered every other year

136 CONTEMPORARY NARRATIVES/Lecture, Discussion

This is a study of representative narratives selected from American, British, and European writers. Selections will include nonfiction, fiction, film, and "non-literary" sources like television in order to examine the nature, structure, impact, and interrelationships of contemporary narratives. Prerequisite: *verbal expression* course or permission of instructor.

Mr. Elliott/Offered every year

142 PSYCHOLOGY AS A HUMAN SCIENCE/Dialogical format

Refer to course description under Psychology 155.

Mr. Kaplan/Offered every year

150 MEDIEVAL LITERATURE/Lecture, Discussion

This course traces the influences and the impact of medieval literature in the literary continuum of Western culture, examining classical roots and contemporary counterparts. The course concentrates on a different theme each year that may be drawn from the following repertoire: Rhetoric and Romance in Medieval Literature; Narratology; The Shrinking Stage in Western Literature; The Epic Hero and the Lady Lover; Vergil in the Middle Ages; and Ovid in the Middle Ages. Students may take the course more than once provided they study a different theme each time.

Ms. Gertz/Offered every year

162 SATANIC HEROES FROM MILTON TO THE BRONTES/Lecture, Discussion

This course chronicles the development of, and changing response to, the Satanic hero from the time of his invention by Milton in 1667 to Emily and Charlotte Brontë's treatment of him in 1847. Works read will include Milton's *Paradise Lost*, Richardson's *Clarissa*, Blake's *Marriage of Heaven and Hell*, Byron's *Childe Harold*, Mary Shelley's *Frankenstein*, Emily Brontë's *Wuthering Heights* and Charlotte Brontë's *Jane Eyre*. The course will use the shifts in attitude toward the Satanic hero to explore changing literary and social values from the Restoration to the Eighteenth Century to the Romantic Period and the Victorian Era.

Mr. Ventura/Offered every other year

163 GOTHIC FICTION/Lecture, Discussion

This class studies the development of gothic fiction both in England and America. For the English tradition we will begin with Horace Walpole's *The Castle of Otranto* (1764) and end with Jane Austen's parody of gothic fiction, *Northanger Abbey* (1818). We will read works by Ann Radcliffe, Matthew "Monk" Lewis, Mary Wollstonecraft, and Mary Shelley. Our reading of American gothic will begin with Charles Brockden Brown's *Wieland* (1798) and end with some short stories by Henry James. Other American authors to be read will include Edgar Allan Poe, Nathaniel Hawthorne, and Herman Melville.

Mr. Berninghausen/Offered every year

167 LITERATURE AND SCIENCE/Lecture, Discussion

This course traces the impact of scientific discovery upon literature as well as the literary accomplishments of scientists. The course is thus a study both in the history of ideas and in literary style. Student research is encouraged.

Mr. Blinderman/Offered periodically

180 MAJOR AMERICAN WRITERS/Lecture, Discussion

The sequence 180-181 takes an historical approach to American literature from Puritanism to the present. This part of the sequence concentrates on early American literature, circa 1620-1860. Texts by Taylor, Edwards, Rowlandson, Franklin, Rowson, Douglass, Emerson, Thoreau, Hawthorne, Melville, and others are read closely.

Mr. Berninghausen/Offered every year

181 MAJOR AMERICAN WRITERS/Lecture, Discussion

This part of the sequence 180-181 concentrates on the evolution of American literature from circa 1860 to the present. Texts by such writers as Whitman, Twain, Howells, Dickinson, Jewett, Crane, James, Frost, Eliot, Faulkner, and Hemingway are read closely.

Mr. Elliott/Offered every year

190 COMMUNICATION, CULTURE AND SOCIETY

A core course rather than a survey or introduction, this course focuses on concepts and ideas from several disciplines that contribute to (or criticize) the intellectual foundations of the communications field. Philosophical and humanities-oriented in approach, the course may include readings by Barthes, Dewey, Lippman, Saussure, and Sontag. Prerequisite: students must have taken or be taking concurrently at least one other communication course and receive permission of the instructor.

Ms. Stange/Offered every year

191 LANGUAGE DIVERSITY IN THE U.S./Lecture, Discussion

This course focuses on the ways in which language use differs in relation to race, ethnicity, gender, and cultural background. We will give special consideration to African-American English, male and female language differences, ethnic and social class markers in language, and bilingualism. Topics will be approached from linguistic, communicative, and ideological perspectives.

Ms. Johnson/Offered every year

192 ETYMOLOGY/Lecture, Discussion

This course increases students' vocabularies through a study of the history of the English language—from its Indo-European source to contemporary slang additions.

Mr. Blinderman/Offered every year

193 THE LANGUAGE OF BIOLOGY/Lecture, Discussion

In this course students study Latin and Greek roots and affixes that constitute biological terms in disciplines such as paleontology, taxonomy, and medicine.

Mr. Blinderman/Offered every year

195 DOCUMENTARY FILMS/Workshop

Documentary films shown will demonstrate the development of this kind of film and filmmaking since its inception. The content, point of view, and technique of each film will be analyzed. Films will include some made by the instructor; other filmmakers will be guest speakers. Students will write a reaction paper for each of the approximately 12 films shown. In addition, students will write a 10-page term paper analyzing one film in detail and suggesting how it could have been done differently or how it could be improved. The course is designed to make the student a more knowledgeable and critical viewer—or maker—of documentary films.

Mr. Wilkes/Offered every year

202 WRITING FOR MAGAZINES I/Workshop

The emphasis throughout the course is on researching and writing magazine and newspaper articles. Careful attention will be given to all the stages of writing a good and publishable article, starting with rigorous discussion about story ideas and methods for obtaining the necessary information. Students also will learn how to "personalize" a story. All stories are written with possible publication in mind. A total of four stories, varying in length from 1,000 to 2,500 words, will be written during the semester and at least two of these stories will be extensively rewritten. Reading the New York Times required; weekly quizzes given. Not open to freshmen. Prerequisite: 105, *Writing for Newspapers* or professional journalism experience, including work on *The Scarlet*. Mr. Wilkes/Offered every year

203 WRITING FOR MAGAZINES II/Workshop

This course follows upon *Writing for Magazines I*. Students will spend more time on longer stories that require extensive research and reporting. Extensive rewriting of stories will be done. The emphasis will be on writing stories that have the possibility of being in local, regional or national publications so as to prepare the student for writing professionally upon graduation. Reading the New York Times required; weekly quizzes given. Prerequisite: 202, *Writing for Magazines I*.

Mr. Wilkes/Offered every year

241 THE MYTHOPOETIC MODE/Seminar

This course explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's *Henriad*, Milton's *Paradise Lost*, Bronte's *Wuthering Heights*, Melville's *Moby Dick*, and works of the modern period. Prerequisite: permission of instructor.

Ms. Hilsinger/Offered every year

242 PSYCHOLOGY OF LANGUAGE/Seminar

Refer to course description under Psychology 242.

Mr. Kaplan/Offered periodically

243 THE PSYCHOLOGY OF LOVE AND HATE IN LIFE & LITERATURE/Dialogical Format

Refer to course description under Psychology 256.

Mr. Kaplan/Offered every other year

244 INTERPRETATION OF DREAMS AND OTHER PRODUCTS OF THE IMAGINATION/Seminar

Refer to course description under Psychology 260.

Mr. Kaplan/Offered every other year

245 THE CREATIVE PROCESS/Seminar

Refer to course description under Psychology 277.

Mr. Kaplan/Offered periodically

246 PSYCHOLOGY AND RELATED DISCIPLINES/Seminar

Refer to course description under Psychology 284.

Mr. Kaplan/Offered periodically

247 SYMBOLIZATION AND SYMBOLIC ACTION/Seminar

Refer to course description under Psychology 357.

Mr. Kaplan/Offered periodically

248 CONTEMPORARY LITERARY THEORY/Seminar

This course traces the development of several theoretical approaches to literature in the twentieth century, culminating with recent positions. We may also attempt to apply these approaches to several literary works. General areas of study will be selected from among the following: textual criticism, new criticism, semiotics, phenomenology, psychoanalysis/reader response, structuralism, post-structuralism, feminism, Marxism, postmodernism.

Mr. Elliott/Offered every year

249 SIGNS AND CROSSROADS: SEMIOTIC THEORY AND PRACTICE/Seminar

This course approaches semiotic theories comparatively. They will be examined from a historical point of view, as well as from a theoretical point of view that breaks them down into three different schools (American, French, and Italian). In addition to learning about semiotic theories, the student will also be able to practice them in a comparative mode; that is, a number of media (such as literature, film, advertising, and drama) will be addressed and analyzed.

Ms. Gertz/Offered periodically

250 MEDIEVAL LITERATURE/Seminar

This course emphasizes literary theory as well as literature of the Middle Ages. The course attempts to achieve a sense of medieval literary culture and hence uses texts from Europe and Great Britain as well as from the classical period. Texts will vary each time the course is offered.

Ms. Gertz/ Offered every other year

251 CHAUCER/Seminar

This course guides the student through *The Book of the Duchess*, *The House of Fame*, *The Parlement of Fowls*, some *Canterbury Tales*, and *Troilus and Criseyde*. All texts will be taught in Middle English (no prior knowledge of Middle English required).

Ms. Gertz/Offered every other year

253 ADVANCED STUDIES IN SHAKESPEARE/Seminar

This course explores recent trends in research and criticism of Shakespeare's texts, using at least nine plays as a foundation. Topics and focus will vary from year to year, but will include feminist, new historicist, and cultural materialist interpretations, performance criticism and theater history. Open only to junior and senior English majors or to students who have successfully completed English 120.

Ms. Vaughan/Offered every year

255 STUDIES IN THE RENAISSANCE/Seminar

This course explores the poets, playwrights, and prose writers who shaped the English literary Renaissance. Authors to be studied may include Thomas More, Philip Sidney, Edmund Spenser, Mary Wroth, John Donne, William Shakespeare, Elizabeth Cary, George Herbert, Ben Jonson, Andrew Marvell, Robert Herrick, John Milton, Thomas Browne, and John Dryden. Their writings are placed in the sociopolitical context of the sixteenth and seventeenth centuries. The focus for 1991 will be on gender and genre. Prerequisite: permission of the instructor.

Ms. Vaughan/Offered periodically

260 SPECIAL TOPICS IN EIGHTEENTH-CENTURY LITERATURE: REACTION AND REVOLUTION, 1660-1800/Seminar

This course introduces students to the work of some of the major figures in

English literature from 1660 to 1800 and to interpretative, historical and theoretical problems related to their work. Topics may include: the High Augustan satire of Dryden, Swift, Gay, and Pope; the reaction to the High Augustan mode after 1740, in the poetry of Gray, Collins, Goldsmith, Cowper, Chatterton, Macpherson, Smart, and Blake; and the rise of discursive prose as a powerful rhetorical medium after 1750, in the hands of Johnson, Burke, Gibbon, Paine, Wollstonecraft, and "Junius."

Mr. Ventura/Offered every other year

261 THE AUGUSTAN AGE/Seminar

Biographical, historical and historicist in orientation, this course explores the poetry and prose of the great age of English satire—an age in which "modern" and Renaissance values engage in one terrific final clash. Authors to be studied include Dryden, Swift, Gay, Pope, Fielding, Lillo and Defoe. Works will be read closely and placed in literary, political, and socioeconomic context.

Mr. Ventura/Offered every other year

262 JANE AUSTEN/Seminar

This course studies Jane Austen in the context of the literary and social concerns of the late eighteenth- and early nineteenth-centuries. The bulk of the reading is in Austen: texts include all of the mature novels, as well as excursions into the unfinished works and selections from the *Juvenilia*. The course also addresses writers whose works inform and influence Austen, such as Burney, Radcliffe, Johnson, Burke, and Cowper. Prerequisite: permission of the instructor.

Mr. Ventura/Offered periodically

263 BRITISH ROMANTIC LITERATURE/Seminar

This course examines its subject from different perspectives—philosophical, biographical, and critical. To uncover what the Romantic sensibility is—how it relates to nature, the self, revolution, and society—we study selected works of the major Romantic authors: Burke, Blake, the Wordsworths, Coleridge, the Shelleys, Keats, Byron, DeQuincey, Hazlitt, and the Lambs.

Mr. Blinderman, Mr. Ventura/Offered every other year

264 THE RISE OF THE SUBLIME/Seminar

This course traces the rediscovery of the Sublime as an aesthetic category in the eighteenth century and its use and development by eighteenth- and nineteenth-century writers. Special attention will be paid to the cult of "enthusiasm," the drift toward subjectivism and psychology in literature, the concept of "original genius," and the importance of the "grand" in nature. Some attention will be paid to landscape and architecture, and to the Beautiful and Picturesque—those categories alternative to the Sublime. Authors may include: Longinus, Alexander Pope, John Dennis, Thomas and Joseph Warton, Edward Young, Samuel Johnson, Edmund Burke, Mary Wollstonecraft, William Wordsworth, Lord Byron, Mary Shelley and Charlotte Bronte.

Mr. Ventura/Offered periodically

265 VICTORIAN LITERATURE I/Seminar

This course focuses upon literature as expressive of major intellectual attitudes of the Victorian Age: the return to medieval and Gothic themes, the rise of evangelicalism and of Anglo-Catholicism, the initiation and success of Darwinism, and the efforts to achieve social reform. Major authors: Newman, Huxley, Dickens, Carlyle, Tennyson. Prerequisite: permission of the instructor.

Mr. Blinderman/Offered every other year

266 VICTORIAN LITERATURE II/Seminar

This course focuses upon the Pre-Raphaelite and Decadent movements, emphasizing aesthetic sensibilities. Major authors: Ruskin, Pater, Christina Rossetti, Wilde. Prerequisite: permission of the instructor.

Mr. Blinderman/Offered every other year

267 DARWINISM/Seminar

Interdisciplinary in nature, this course is devoted to the study of original and research materials elucidating the scientific, philosophical, religious, and social dimensions of Darwinism. The course chiefly examines Darwinian ideas about the survival of the fittest as found in English and American literature. Prerequisite: permission of instructor.

Mr. Blinderman/Offered every other year

272 JOYCE AND LAWRENCE/Seminar

This course is an intensive introduction to the art of the two writers. Poems, short stories, and novels by both are studied. Prerequisite: permission of instructor.

Mr. Sultan/Offered periodically

273 THE IRISH LITERARY MOVEMENT/Seminar

This is a course in the inception, development, and effect of the literary movement that, during the end of the last century and the first decades of this one, created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature also are studied. Prerequisite: permission of instructor.

Mr. Sultan/Offered periodically

274 W.B. YEATS/Seminar

This course is an intensive study of the accomplishments of Yeats. The principal concern is his poetry, but attention is given to his thought, his dramatic and other writings, and his cultural role in Ireland and the world during his time. Prerequisite: either a course devoted to poetry, permission of the instructor, or *The Irish Literary Movement*.

Mr. Sultan/Offered periodically

275 VIRGINIA WOOLF/Seminar

This seminar involves intensive study of Virginia Woolf's major novels, short stories, and essays. The course emphasizes the artistic process as well as the vision of Woolf's work; it considers such issues as Woolf's feminism and critical stance. Prerequisite: permission of the instructor.

Ms. Hilsinger/Offered every other year

278 MODERN POLITICAL LITERATURE/Seminar

This is a seminar devoted to political fiction, poetry and plays of the past century, principally in the United States, Great Britain, Ireland, France, Germany, Spain and Latin America. Works advocating and attacking political formulations about class, race, and sex will be studied. No prior knowledge of politics or political theory is necessary. Permission of instructor.

Mr. Sultan/Offered periodically

280 EARLY AMERICAN LITERATURE/Seminar

This course traces the shifting grounds of American literature from 1776 to 1845, giving careful attention to the ways in which literary texts respond to cultural and political developments in the new nation. We will read political

tracts, novels, short stories, sketches, plays, and poetry by authors such as Thomas Jefferson, Tom Paine, John Adams, Abigail Adams, James Madison, Hannah Foster, Philip Freneau, Phillis Wheatley, Royall Tyler, Hugh Henry Brackenridge, Charles Brockden Brown, Washington Irving, James Fenimore Cooper, Catherine Maria Sedgewick, Lydia Maria Child, William Lloyd Garrison, and Edgar Allan Poe. Prerequisite: permission of instructor.
Mr. Berninghausen/Offered every year

281 AMERICAN LITERARY RENAISSANCE/Seminar

The seminar focuses on the period of 1845 to 1860. Characteristic writings by Emerson, Fuller, Douglass, Hawthorne, Melville, Stowe, and Whitman will be examined in their cultural, literary, and historical context. Prerequisite: permission of instructor.
Mr. Berninghausen/Offered every year

283 VISIONS OF REPRESENTATION: 1860-1920/Seminar

This course explores the artistic and theoretical assumptions underlying American realism through selected works of American writers. The course begins by examining works by Twain, Howells, and James, then counterpoints these writers with selections from such writers as Crane, Dreiser, Jewett, Cather, Wharton, Mary Austin, Ann Petry and others. Prerequisite: permission of instructor.

Mr. Elliott/Offered every year

284 STUDIES IN NINETEENTH-CENTURY AMERICAN LITERATURE/Seminar

The specific content and approach for this course will be determined by the instructor. The set of readings may be organized in various ways: by theme, genre, critical approach or cultural contexts, for example. The readings will, however, deal predominantly, but not exclusively, with literature written before 1900. The topic for 1990-91 is *The American Canon*. Prerequisite: permission of the instructor.

Mr. Elliott/Offered every year

285 AMERICAN MODERNISMS/Discussion

This is an interdisciplinary study of several American modernist projects in the fine arts, including Cubism and Futurism in painting; both the architectural ideas of Frank Lloyd Wright and feminist reformers; and various experiments in poetry and prose fiction. Other kinds of projects studied include those of the Harlem Renaissance and of various women writers. Prerequisite: permission of the instructor.

Mr. Conron/Offered periodically

286 AMERICAN SPACES/Discussion

This course, when taught as a one-semester offering, will concentrate on the effects of the picturesque aesthetic on the *representation* of nineteenth-century spaces (landscapes, domestic spaces and mindscapes) and upon notions of pictorial form in literature, painting, architecture and landscape architecture. In the literature, we analyze the impact of the aesthetic, both story and discourse, in travel literature, in quest narratives, in literature by women, and in black folk literature. Prerequisite: permission of instructor.

Mr. Conron/Offered every year

286.1 & 286.2 AMERICAN SPACES/Discussion

When *American Spaces* is taught as a yearlong course, the fall semester (286.1)

will be devoted primarily to painting and architecture; and the spring semester (286.2) to the spatial analysis of fiction and poetry.

Mr. Conron/Offered every year

287 STUDIES IN LANDSCAPE/Seminar

This seminar concentrates on various aspects of twentieth-century American space in literature, painting, photography and film. Texts for the course are chosen, and taught, by the students. Prerequisite: English 286, *American Spaces*.

Mr. Conron/Offered every other year

288 ART OF THE CITY: PARIS AND NEW YORK/Discussion

A comparative structural and cultural analysis of two urban designs, Haussmann's Paris and Olmsted's New York; of the visual representation of the two cities by French Impressionists and American School of Ashcan painters; and of the literary interpretation of the cities by two urban poets, Charles Baudelaire and Walt Whitman. The cities will be considered as theaters in which cultural meanings are produced through 1) spatial composition (the city as an assemblage of constructed sets, including boulevards and other promenades, monuments, and department stores) and 2) performances in the set (the city as dramatized narrative). Among the questions to be explored is the matter of cultural kinships and differences between France and the United States. Prerequisite: permission of either instructor.

Mr. Conron, Mr. Spingler/Offered every other year

289 ART OF THE CITY: LOS ANGELES/Discussion

The history of Los Angeles in the twentieth century is the embodiment of a polemic between traditional and technological notions of the modern city, and is thus a quintessential expression of the American cultural spirit—or perhaps of the end of that spirit. This course approaches Los Angeles as English 288 approaches Paris and New York: as a theater in which cultural meaning is produced through spatial composition and dramatized narrative. Aspects of the city's design and representations of the city in film and in prose narrative will also be studied. Prerequisite: permission of the instructor.

Mr. Conron/Offered periodically

294 HISTORY OF THE ENGLISH LANGUAGE/Lecture, Discussion

Focusing on the English language from an historical perspective, this course examines the changes in English during the Anglo-Saxon, medieval, and early modern periods. In addition to learning phonological and grammatical characteristics of the language during each period, the student examines language as a mirror of culture.

Ms. Gertz/Offered periodically

295 THE ARTS IN MODERN CULTURE/Lecture, Discussion

Writers studied in this course analyze the arts culturally and politically as well as aesthetically and historically. Acknowledging that the advent of industrial society and mass communications has altered the nature and functions of fine and popular arts just as it has changed other aspects of life, these writers extend their concerns beyond the traditional "high arts" to films, photography, television, advertising and popular culture. Writers may include Berger, Benjamin, Barthes, Sontag, and Jameson.

Ms. Stange/Offered every year

2991 DIRECTED READINGS

Offered for variable credit.

Staff

2995 SPECIAL PROJECTS

Offered for variable credit. When asking an instructor to sponsor directed readings (2991) or a special project (2995), the student should: (1) demonstrate competence to deal with the materials as literature and (2) present a well thought out proposal. The student must take the initiative in selecting readings or carrying out the special project.

2998 HONORS IN ENGLISH: SENIOR YEAR

A student who plans to take Honors in English should identify an area of interest with an advisor and apply to the department chair before the end of the junior year. At the student's discretion and with the adviser's approval, a student may register for an *Honors in English* project, which will carry one or two credits. If the project warrants two courses, credit for one semester's *Directed Reading* and one semester's *Directed Writing* can be arranged simultaneously or in sequence. The advisor and the student will agree on deadlines for the project's stages, but the department requires a first draft by the first Monday in March. A complete thesis is due one week before the last day of classes. A second reader, chosen by the student and the advisor, participates in the final evaluation. In no case will honors be granted to any student who fails to meet both deadlines (although the project still qualifies for course credit and a grade).

Staff

2999 INTERNSHIP

Offered for variable credit.

340 INTRODUCTION TO GRADUATE STUDY IN ENGLISH/Seminar

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principal areas in the discipline—bibliography and textual analysis, literary history, and literary criticism. M.A. candidates not specifically exempted are required to take this course.

Mr. Sultan/Offered every fall semester

396 THESIS COLLOQUIUM

The purpose of *Thesis Colloquium* is to provide graduate students with guidance, expertise and resolution regarding the Master's thesis. The chief requirement is an oral colloquium presentation by students from prepared outlines or working hypotheses of their thesis topics. This presentation is ordinarily given during the semester the student is registered for *Thesis Colloquium* or the following semester. While the exact format of the workshop will vary according to the professor conducting it, the colloquium can include scheduled guest lectures by members of the English Department faculty, as well as by faculty from other departments or universities.

Staff/Offered every spring semester

397 MASTER'S THESIS

Prerequisite: permission of the Graduate Committee.

Staff

3991 GRADUATE DIRECTED READINGS

May be elected by students who want to pursue in-depth a topic other than that chosen for the master's thesis. The student will be required to give an oral presentation during *Thesis Colloquium* on an issue dealt with in the Directed Readings. Prerequisite: permission of instructor. Offered for variable credit.

Staff

Environment, Technology, and Society

PROGRAM FACULTY

Christoph Hohenemser, Ph.D., *chair*: physics, technology assessment, risk analysis, hazard management

Halina Brown, Ph.D., *acting chair, 1990-1991*: chemistry, toxicology, risk analysis and management, public health policy

John A. Davies, Ph.D.: physics, energy analysis

Jacque L. Emel, Ph.D.: water resources, environmental politics, hydrology

Robert L. Goble, Ph.D.: physics, energy studies, atmospheric transport, risk analysis and management

Frederick Greenaway, Ph.D.: chemistry, environmental analysis

Roger E. Kasperson, Ph.D.: geography, environmental policy, decision making, risk analysis and management

Stuart Licht, Ph.D.: solar energy, analytical chemistry, theoretical chemistry.

Todd P. Livdahl, Ph.D.: ecology, population biology

Samuel Ratick, Ph.D.: environmental modeling, transportation logistics and planning, locational choice, impact analysis

Ortwin Renn, Ph.D.: technology assessment, risk analysis and management, environmental psychology

Harry Schwarz, B.C.E., P.E.: water resources engineering, water planning and policy, hydrology, environmental planning

PROGRAM

Environment, Technology, and Society (ETS) is an interdisciplinary program that emphasizes policy questions involving the environment and the use and misuse of science and technology. The goal of the program is to enable individuals to deal with technical issues in a social and political context and to do so with an acute awareness of the short- and long-range limitations of the natural environment. The ETS Program offers an undergraduate major, a master of arts degree in environmental affairs or in technology assessment and risk analysis, and a self-designed Ph.D. Participating faculty are drawn from a number of departments and disciplines and have research interests in a wide range of societal problems including environmental science and management, energy and technology policy, and assessment and control of technological hazards. Faculty interests, which are focused on both the developed and developing world, offer students the chance to participate in research.

When it began in 1984-85, the ETS Program combined and enhanced long established programs in Environmental Affairs and Science, Technology, and Society. Graduates of these programs have taken positions in private industry, environmental foundations, and government doing work that involves policy analysis and formulation, planning, risk analysis, and environmental impact assessment. Students also have gone on to other graduate fields or have pursued careers in professions such as medicine or law.

UNDERGRADUATE MAJOR

The degree requirements for an undergraduate ETS major are designed to ensure that students acquire a firm foundation in natural science with considerable exposure to social science/public policy perspectives. Achieving literacy in natural science is especially important for two reasons: (1) many significant problems are accessible only with a thorough grounding in natural

science and (2) there is a significant need for managers of science, technology, and environment whose technical background is more than perfunctory.

Accordingly, the requirements for the undergraduate ETS major emphasize natural science and mathematics. Requirements are indicated in the following table.

REQUIREMENTS FOR THE MAJOR

1. Basic literacy in natural science
6 semesters in one discipline of natural science (physics, chemistry, biology, mathematics/computer science)
2 additional semesters in another natural science
2 semesters of mathematics/computer science, one of which must be calculus and the other statistics (or 2 semesters in an additional natural science if 6 semesters of mathematics/computer science are selected.)
2. Basic literacy in social science
2 semesters of basic social science (economics, government, geography, management)
3. ETS courses
1 introductory course
2 theory and methods courses
2 problem-oriented courses
1 semester course equivalent of capstone research involving a thesis or a research project.

Students should note that ETS courses crosslisted by natural and social science departments may not be used to meet the basic literacy requirements in natural and social science.

ETS majors are encouraged to strengthen their educational experience by working in academic year internships or paid summer jobs related to their goals and interests. These positions are often obtained with the advice and assistance of the program committee, whose members have contact with numerous organizations. recent placements include the International Atomic Energy Agency in Vienna, Town of Holden Conservation Commission, the Massachusetts Energy Office, the Scientists' Institute for Public Information, the Central Massachusetts Regional Environmental Council, the Massport Office of Noise Control, the Central Massachusetts Air Pollution Control District, and the Massachusetts Office of Coastal Zone Management. Internships are encouraged and may substitute for one of the problem-oriented courses. All student programs must be specifically approved by the undergraduate advisor.

The ETS Program also seeks to facilitate the involvement of undergraduates in faculty research. Much of this research is housed in the University's Center for Technology, Environment and Development (CENTED); the remainder is located in participating departments. Detailed, up-to-date information on research opportunities is available from individual program committee members and from the program office.

Honors in Environment, Technology and Society are awarded upon presentation and oral defense of an undergraduate thesis. Students who wish to receive honors must have attained at least a 3.0 grade point average in ETS-required courses by the end of their junior year and are encouraged to begin work the following summer on a project or internship that can be extended into a thesis during the senior year.

INTEGRATED B.A./M.A. DEGREE

Because an undergraduate liberal arts education, even with an ETS major, leaves only a modest amount of time for intensive study of ETS subject matter, the program offers an integrated B.A./M.A. option involving a total of five years

of study. Under this plan, students complete an undergraduate major in the first four years and an M.A. degree during the fifth.

Students majoring in any undergraduate field can apply for the B.A./ M.A. degree program. ETS majors are admitted to the B.A./M.A. program without additional requirements. Majors in other disciplines must supplement departmental requirements with a number of preparatory courses, as shown in the table below. The preparatory courses in most instances count as part of the "extended major" requirements of various departments and thus are not difficult to satisfy. With approval of the graduate advisor, students in the combined B.A./M.A. program may count toward the graduate requirement any 200-level undergraduate courses completed with a grade of B- or better.

A request for admission to the combined B.A./M.A. program is normally made to the program chair during the junior year and will be granted if the student presents an acceptable program of undergraduate study and a cumulative average of B- or better. Students who wish to plan their B.A./M.A. program are advised to consult the ETS graduate brochure available at the program office. This brochure lists sample five-year B.A./M.A. programs based on a range of undergraduate majors.

ETS AND PREPROFESSIONAL PROGRAMS

ETS may be an attractive major for students planning to continue in professional schools. The basic reason for this is that many of the requirements are the same.

Premedical and predental program

Students in these programs must fulfill the following requirements:

- (1) a year of introductory biology,
- (2) a year of introductory chemistry,
- (3) a year of organic chemistry,
- (4) a year of physics, including laboratory,
- (5) a year of English,
- (6) a year of calculus, and
- (7) a year of psychology.

Most of these required courses can be used to meet the ETS major requirements. More information is available in a special premedical program booklet, available from the Office of Career Services. Also, read the section in the introduction of this catalogue.

Prelaw Program

Students in this program have no fixed requirements, but it is generally important to have a number of courses in English and government to develop communication skills. More information is available from members of the Prelaw Advisory Board and the Prelaw Handbook available at the Office of Career Services.

GRADUATE STUDIES

MASTER'S DEGREE

The master's degree in ETS is not primarily an extension of liberal arts at the undergraduate level. Rather, it is an effort to train individuals who can go directly from Clark into problem- solving jobs in the areas of environmental policy or technology assessment and risk management. In this sense, an ETS graduate degree is a preparation for a profession.

Two master of arts degrees are offered. The M.A. in environmental affairs trains students for entry-level professional positions in the expanding fields of

environmental planning, management, and education. The M.A. in technology assessment and risk analysis trains students in evaluating the benefits and hazards of technology and may lead to further graduate work or entry-level positions in the fields of environmental and occupational health and safety.

Ten course units are normally required for a master's degree. These are earned through a combination of classroom courses, research apprenticeships, and theses preparation. Because of limited faculty resources for formal course offerings, graduate students should accomplish a significant portion of their learning through research apprenticeships. Emphasis on research is also consistent with the goal of the program: to prepare students for problem-solving jobs. The program has the following formal requirements:

1. *Core Curriculum.* Students must take four semesters of the ETS graduate core curriculum, including:
ETS 226: *Risk Assessment and Hazard Management*
ETS 250: *Technology Assessment*
ETS 251: *Limits of the Earth*
ETS 265: *Quantitative Methods in Risk Analysis*
2. *Research Participation.* Students must take at least two semesters of research, one of which must be in a different area than the M.A. thesis. To complete this requirement, students should sign up with individual faculty under the designations:
ETS 399.2: *Directed Research*
ETS 399.3: *Thesis Research*
3. *Electives.* Four electives must be chosen from other courses offered by the ETS Program and related departments and programs.
4. *Comprehensive Examination.* Students must undertake at the M.A. level a written and oral qualifying examination on the core curriculum. Normally given in May, after the completion of the spring semester, this examination is intended to test the breadth of the student's knowledge in the subject matter of the core curriculum, and it should be completed before beginning thesis work.

Students from other institutions or from Clark are admitted to the master's program upon application to the program office. Clark students who have been previously admitted to the integrated B.A./M.A. program, and who complete the requirements for this program, may count any two 200-level courses, internships, or research projects towards the ten-course requirements of the M.A. degree. These courses must have approval of the graduate advisor and must be completed with a B- or better. Students from other institutions may be given credit for two advanced courses if these would have met the requirements for Clark students.

PH.D. DEGREE

A self-designed Ph.D., administered by a multidisciplinary Faculty Committee chosen individually for each student, is available. Interested applicants should contact the chair of the ETS Program, indicating their specific goals. A detailed description of the Ph.D. program appears in the ETS graduate brochure available from the Program Office.

INTRODUCTORY COURSES

101 INTRODUCTORY CASE STUDIES/Lecture, Discussion

Introduces the student to technology assessment and environmental policy through illustrative cases covering issues such as population and food, land and water resources, energy systems, pollution control, technology assessment, waste management, and arms control. Both writing and quantitative methods

are emphasized so that students will become aware of the multidisciplinary approach needed in analysis of the cases. The course can be taken for *verbal expression* credit.

Staff/Offered every semester

102 INTRODUCTION TO THE GLOBAL ENVIRONMENT/Lecture, Discussion

Provides an overview of the physical and humanistic components of major global environmental problems — world food supplies, tropical deforestation, acid rain, ozone layer destruction, and land degradation. Students are introduced to the major biogeochemical cycles, interactions of the atmosphere and hydrosphere, and measurable trends in global ecology. Poverty, world health, population trends, and the roles of science and technology are examined as factors in, and products of, the global environment.

Ms. Emel/Offered every year

103 ENVIRONMENT 199/Lecture, Discussion

An assessment of major environmental issues, both national and global in nature, confronting human society in the current year. Particular attention is paid to problems requiring governmental action: rapid population growth, hazardous chemical wastes, long-term planning, and world water shortages. The interplay between environmental change and public policy is stressed. Intended for those desiring introductory or general knowledge.

Mr. Kasperson/Offered every year

105 ECONOMIC PROSPERITY AND ENVIRONMENTAL QUALITY IN EUROPE/Seminar

The focus of this course will be on the conflict between economic development and environmental quality during the early phases of industrialization in Europe and its repercussions in modern economic and environmental policies. This course can be taken for a *comparative perspective* credit. Offered as a seminar for the May term in Luxembourg.

Mr. Renn/Offered periodically

THEORY AND METHODS

109 SCIENCE AND SOCIETY WRITING SEMINAR/Seminar

This writing seminar is intended for students who are interested in how people interact with complex technologies or with complex natural systems and who wish to develop skills in using nontechnical language to describe and analyze technical subjects. Each year the seminar concentrates on a particular topic of current interest. Students write papers that — after integration and editing in the seminar — may be published as part of the *ETS Review*. Past topics have included the Challenger accident and testing for AIDS.

Mr. Goble/Offered periodically

115 HYDROLOGY/Lecture

Provides an overview of the hydrologic cycle and its major components including precipitation, evapotranspiration, soil moisture, surface water runoff, and groundwater flow. The course focuses upon the role of water as a unifying concept in environmental science. Examines human modification of natural hydrologic regimes. Prerequisite: Geography 014.

Ms. Emel/Offered every other year

124 ECONOMY AND ENVIRONMENT/Lecture, Discussion

This course addresses the historic intersection of industrialization, urbanization,

and ecology. We examine cases of economic, environmental, and political conflict over the past three hundred years in order to gain historic depth on contemporary issues. London air pollution, New York City water supplies, mechanized fishing in the Pacific, European coal mining, and American forestry product industries will be among the cases we consider. The course objective is to help students envision the relationships between the environment and work, technology, consumption, finance, and other economic activities. Legal and political histories pertinent to these relations are also addressed.

Ms. Emel/Offered every other year

142 ENVIRONMENTAL CHEMISTRY/Lecture, Laboratory

Focuses on the chemistry related to environmental problems, particularly aquatic chemistry and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 102. Three lectures and one four-hour laboratory per week.

Mr. Licht/Offered every year

157 TECHNOLOGY AND SOCIAL CHANGE/Lecture, Discussion

This course focuses on the interaction between technology and society. Among the topics considered are: the nature of technology and its relationship to society; historical and contemporary case studies of the impact of technology; the nature of technological failures; and forecasts of how technology may change society by the year 2000.

Mr. Mitchell/Offered every year

175 SCIENCE, DECISION MAKING, AND UNCERTAINTY/Lecture, Workshop

An examination of decision making under conditions of scientific uncertainty. The goal of the course is to describe: (1) strengths and limitations of scientific analysis in the assessment of environmental and technological issues and (2) methods designed to aid decision making under uncertainty. Initial emphasis is on the structure of scientific knowledge, ways of knowing, and types of scientific uncertainty, with examples drawn from particle physics, chemistry, engineering, epidemiology, and opinion research. Case studies of environmental and technological risk management take these issues into the "real world." Weekly workshop includes practical exercises in statistical treatment of data, fitting data to a form, calculation of uncertainty, interpretation of epidemiological data, and computer simulations of dose-response models and multicompartmental kinetic models. This course can be taken for a *scientific perspective* credit.

Ms. Brown/Offered every year

210 ENVIRONMENT AND SOCIETY/Lecture, Discussion

A central theme of this course is to analyze the relationship between human societies, especially those that are industrialized, and the natural environment. Among the topics to be considered are: the impact of industrialization on nature, the population-resource debate, the rise of modern environmental concern and political action, and pesticides and energy policy issues.

Mr. Mitchell/Offered every year

226 SEMINAR: ENVIRONMENTAL HAZARDS—THEORY, MODELS, AND APPLICATIONS/Lecture, Discussion

An introduction for advanced students to the theory and methods of risk assessment and the management of environmental hazards. Case study material is drawn from current research including natural hazards, hazards of

consumer products, energy production, toxic chemicals, and transportation. ETS 226 is part of the core curriculum for ETS graduate students.

Mr. Kasperson/Offered every year

250 TECHNOLOGY ASSESSMENT/Seminar

This course focuses on methods and techniques presently used to assess and evaluate the consequences of technologies. Different approaches to technology assessment are discussed and various case studies are presented. This course is part of the core curriculum for ETS graduate students.

Mr. Renn/Offered every year

251 LIMITS OF THE EARTH/Seminar

This course is a systemic review of the data and the quantitative methods that can be used to project changes in populations, resource bases, and environmental cycles. Student papers and presentations for the development of each are required. This course is part of the core curriculum for ETS graduate students.

Mr. Goble or Mr. Hohenemser/Offered every year

252 LOCATING HAZARDOUS FACILITIES/Seminar

This seminar provides a problem-oriented forum to study siting hazardous facilities. The course includes a review of the theoretical foundations that relate to facility location decisions, including discussions of efficiency and equity issues, an evaluation of analytical methods that have or can be applied to this policy decision problem, and a critical analysis of specific facility location case studies. The course consists of lectures, hands-on problem analysis, and focused class discussions.

Mr. Ratick/Offered periodically

258 RISK PERCEPTION/Seminar

Based upon the theories of object perception in cognitive psychology, we investigate the intuitive mechanisms of people to collect and assimilate information about activities and events with uncertain outcomes. Discussions focus on various coping strategies in handling risky situations and on the cognitive patterns related to the assessment of uncertain events.

Mr. Renn/Offered periodically

265 QUANTITATIVE METHODS IN RISK ANALYSIS/Seminar

For advanced students, an introduction to quantitative methods in risk analysis, including fault-free analysis, dose-response models, risk benefit analysis, cost-effectiveness analysis, and quantitative methods for risk comparisons. Applications to auto accidents, nuclear power, cigarette smoking, and radiation health effects. This course is part of the core curriculum for ETS graduate students.

Ms. Brown /Offered every year

270 DECISION ANALYSIS FOR ENVIRONMENTAL MANAGEMENT AND EVALUATION/Seminar

This course focuses on the main concepts and methods presently used to generate and evaluate options for addressing and resolving environmental problems. Topics include the theoretical foundations of decision making and the theory and techniques of both classical decision analysis and multiattribute decision theory. The course is designed for students with an interest in decision and policy making. Most applications discussed are related to environment or technology in developed or developing countries.

Mr. Renn/Offered periodically

345 RESEARCH SEMINAR IN ENVIRONMENTAL PERCEPTION/Seminar
Examines theories and major research on the human perception of the natural and social environment and the relationship between perception and behavior. Attention is given to the relevant methodologies. Part of the semester is devoted to students' research interests.
Mr. Mitchell/Offered periodically

351 RESOURCE GEOGRAPHY: THEORY AND METHOD/Seminar
Examination of major theories and methods of resource estimation, allocation, and management, providing coverage of the scholarly literature of the field.
Ms. Emel /Offered every other year

COURSES ON ENERGY PROBLEMS

130 ENERGY SYSTEMS, ECONOMICS AND POLICIES/Lecture
An introduction to the subject of energy for ETS majors and others interested in the utilization of fossil fuels, solar and wind power, geothermal energy, and nuclear fission and fusion. The course is jointly taught by Mr. Davies (Physics) and Mr. Renn (ETS). Emphasis is placed on basic concepts, thermodynamic principles, efficiency of use, economic principles of the energy market, and energy policies. The course provides the necessary background for those planning more detailed study of energy technology or policy.
Mr. Davies, Mr. Renn/Offered every other year

COURSES ON HEALTH AND HAZARD PROBLEMS

120 THE NUCLEAR AGE/Lecture, Discussion
An examination of the nuclear age in broad comparative perspective. The goals are (1) to describe the scientific and historical roots of nuclear technology and (2) to discuss current policy dilemmas with regard to nuclear weapons and nuclear electric power. Initial focus is on the intellectual roots of nuclear physics (1700-1913), the "golden age" of nuclear physics (1913-1939), and nuclear physics in war (1939-45). The main body of the course addresses the nuclear arms race during the cold war (1945-89), its partial devolvement since 1989, the growth and current role of nuclear electric power, and other nuclear issues such as continuing debates about the biological effects of nuclear radiation.
Mr. Hohenemser /Offered every other year

232 TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH/Lecture, Discussion
Theme and content varies. Offered for graduate students and for undergraduates who have completed a course in microbiology and one or more years of college-level chemistry. Prerequisites: Biology 109, Chemistry 102, and permission of instructor.
Mr. Reynolds/Offered periodically

234 HEALTH AND DISEASE IN THE AMERICAN HABITAT/Discussion
Based on readings drawn from medical and historical geography, biological science, and the history of American medicine and public health, this course takes a synoptic view of concepts and practice concerning health and disease as a form of environmental cognition and management. Discussion topics range from the changing disease environments of early New World migrants and inhabitants to present-day concerns over environmental health hazards. Emphasis is on societal interactions with urban-industrial disease environments in the last hundred years and the intellectual consequences of these interactions.
Mr. Koelsch/Offered every other year

235 ENVIRONMENTAL HEALTH/Lecture, Discussion

Principles and practices involved in the evaluation and control of selected environmental hazards. Topics covered include epidemiology, environmental toxicology, risk assessment, infectious agents, water quality standards, water treatment practices, and occupational exposures. Prerequisites: Biology 109 and Chemistry 102, and permission of instructor.

Mr. Reynolds/Offered periodically

241 ENVIRONMENTAL TOXICOLOGY/Lecture, Discussion

Focus is on the assessment of hazardous properties of toxic chemicals in the environment and on development of public health policy. The first part covers the principles of absorption, distribution, excretion, and toxic action of chemicals on humans; animals testing; and human epidemiology. The second part covers assessment of public health risks on the basis of animal and human test results, development of standards for air and water contaminants, and uncertainty in regulating hazardous chemicals.

Ms. Brown /Offered every other year

246 CANCER: SCIENCE AND SOCIETY/Seminar

The focus is on one of the most dreaded diseases in modern society: cancer. In the first part, the course considers the geographic distribution of cancer in this country and the world, factors contributing to its formation, and the biologic mechanisms underlying cancer. The course then concentrates on screening techniques for detecting cancer-causing agents and on methods for assessing and regulating cancer risks to humans. The third part focuses on case studies of selected human carcinogens as well as social and political controversies surrounding this disease.

Ms. Brown/Offered every other year

COURSES ON ENVIRONMENT AND RESOURCE PROBLEMS

159 VALUES IN SCIENCE AND TECHNOLOGY/Seminar

The course is a joint venture of the Art History Department and the ETS Program. The purpose is to educate students in the history of art by studying analytical texts and artistic interpretations of the changes that technology triggers in society. The course can be taken for a *value perspective*.

Ms. Grad, Mr. Renn/Offered every other year

160 CONFLICT RESOLUTION/Lecture, Discussion

This course focuses on the main concepts and methods presently used to generate and evaluate options for environmental management and to resolve international conflicts about environmental issues. The theoretical foundations of conflict and decision analysis and game theory, such as cost benefit analysis and multiattribute utility analysis, are discussed. In addition, applications in environmental policy making are presented and students have the opportunity to practice some of the techniques for solving environmental problems.

Mr. Renn/Offered periodically

182 POLITICS, PEOPLE, AND POLLUTION/Lecture, Discussion

Environmental problems and issues arise from economic development processes in both industrialized and developing countries. What are the facts, and what are the myths, in a consideration of environment and development? How do we establish policies for dealing with these problems? What are the processes by which governments make decisions addressing complex environmental developmental issues here and in distant parts of the world? This course offers

students an opportunity to examine the relations between environment and development in the context of developing and industrialized societies.
Ms. Thomas, Mr. Schwarz/Offered every other year

271 GROUNDWATER RESOURCES: AN INTRODUCTION TO GROUNDWATER HYDROLOGY AND MANAGEMENT/Lecture, Discussion
An introduction to both the geological and hydrological factors controlling the occurrence and development of groundwater and the methods and impacts of groundwater management.

Ms. Emel/Offered every year

DIRECTED READING AND RESEARCH

296 REMOTE SENSING PROJECT WORK/Lecture, Laboratory

A more detailed consideration of the use of remote sensing for environmental analysis, particularly land use. Includes field work and a class remote sensing project.

Mr. Steward/Offered every other year

297 CAPSTONE RESEARCH/Seminar

A required course for senior ETS majors, this seminar offers an opportunity to integrate the strands of the ETS major or to prepare a research proposal for a master's thesis. Specific topics for investigation are chosen largely on the basis of student interest from a broad array including global environment threats, energy and other resource issues, arms control and disarmament, and technological risk assessment and management. Unlike a regular course, student presentations constitute a major portion of class meetings, with the instructor as a facilitator of discussion and as a general resource for the group. Students must be seniors or second semester juniors and must have completed a substantial fraction of their major requirements.

Mr. Goble or Mr. Hohenemser/Offered every year

298 DIRECTED READINGS

Offered to undergraduate students who want to pursue a specific topic on their own, with tutorial assistance by a faculty member. By permission only.

Staff/Offered every semester

299 RESEARCH AND THESIS

Offered to students who want to conduct research under the guidance of faculty. The product of the research may be an undergraduate thesis acceptable for honors in Environment, Technology and Society, or it may be another product to be defined by the student and faculty tutor. By permission only. Variable credit.

Staff/Offered every semester

398 DIRECTED READINGS AND RESEARCH

Offered to graduate students who want to pursue a specific topic on their own under the supervision and guidance of a faculty member. By permission only. Variable credit.

Staff/Offered every semester

399 MASTER'S THESIS

Staff/Offered every semester

Foreign Languages and Literatures

DEPARTMENT FACULTY

Michael K. Spingler, Ph.D., *chair*: French theater and film, comparative drama, translation

Michiko Aoki, Ph.D.: Japanese language and culture

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, classical mythology, classical art and archaeology

Marcia Butzel, Ph.D.: French and Italian film theory, cultural studies, French narrative

María Acosta Cruz, Ph.D.: Spanish-American literature, Baroque literature, postmodern literature, comparative literature, contemporary literary theory

Carol C. D'Lugo, Ph.D.: Spanish and Spanish-American narrative, literary theory

Marvin A. D'Lugo, Ph.D.: Hispanic literature and film, narrative theory

William Ferguson, Ph.D.: Spanish Golden Age literature, twentieth-century Hispanic literature

Everett Fox, Ph.D.: Hebrew Bible, Midrash, Jewish ritual and folklore, classical Jewish thought

Kenneth Hughes, Ph.D.: nineteenth- and twentieth-century European literature, comparative literature, literary theory

Hartmut Kaiser, Ph.D.: German language and literature, German romanticism, the fairy tale, relations between music and literature

Dorothy Kaufmann, Ph.D.: French literature, feminism and women writers, autobiography, French and Francophone cultural studies

Tatyana K. McAuley, Ph.D.: Russian and Czech languages and literatures, Old Russian literature, nineteenth- and twentieth-century Russian literature, Russian culture

Constance M. Montross, Ph.D.: Spanish-American literature

Elizabeth O'Connell, Ph.D.: Spanish-American literature, Latin American women writers

Walter Schatzberg, Ph.D.: age of Goethe, German expressionism in literature and the arts, German cinema, relations of literature and science

Catherine C. Quick Spingler, M.A.: French language and literature

Martine Voiret, Ph.D.: eighteenth-century French literature

EMERITI

Karl J. R. Arndt, Ph.D.: German

Raymond E. Barbera, Ph.D.: Romance languages

J. Fannin King, M.A.: Romance languages

J. Richard Reid, Ph.D.: Romance languages

UNDERGRADUATE PROGRAM

THE MAJOR IN FOREIGN LANGUAGES AND LITERATURES

The major in foreign languages and literatures concentrates on the way in which nations express their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, economics, sociology, and international relations in order to arrive at an understanding of

the cultural traditions of other nations. The Foreign Languages and Literatures Department is part of the Higgins School of Humanities.

REQUIREMENTS

1. No fewer than ten courses above the intermediate level in one or more foreign languages of which at least one course must be advanced topics (designated as 199 in French, German, and Spanish). German 103 and 104 may be counted toward the major.
2. At least one introductory-level course in literature and one in culture criticism.
3. At least five of the ten courses required for the major must be taken in residence at the Worcester campus.
4. A minimum of at least two units of course work taken in a Clark-sponsored or Clark-approved study abroad program, unless individual circumstances preclude it.
5. At least five related courses, one of which must be in comparative literature, are to be selected by the student in consultation with a major advisor.
6. If the major program is concentrated in one language, a reading knowledge of a second language is strongly recommended.

THE ADVISORY SYSTEM

To ensure a coherent sequence of courses, the department requires close consultation between students and major advisors. The advisory system aims to accomplish the following:

1. A program designed to enhance and reflect the student's scholarly growth.
2. A program that makes clear the relationship between the different courses selected to fulfill the major. The advisor will assist the student in identifying certain areas of focus (for example, cross-cultural studies, studies in literature, or film).
3. Timely identification of an area of interest that will insure progress towards the capstone, independent study, or honors project taken in the senior year.

HONORS IN FOREIGN LANGUAGES

A student wanting to take honors in a foreign language should choose a topic and advisor and apply to the department chair before the end of the student's junior year. Approval of the honors course is based upon assessment of work performed in advanced topics (Language 199). With the advisor's approval, a student may register for an honors project, which will carry one unit of credit.

Once approval of the honors project is made by the chair, the advisor and the student will agree on the deadlines for the project's stages, but the department requires that a preliminary draft of the honors project be completed by the first Monday in April. The final version of the project is due one week before the last day of classes. A second reader, chosen by the student and the advisor, will participate in the final evaluation. In no case will honors be granted to any student who fails to meet both deadlines (although the project still qualifies for course credit and grade).

THE MAJOR IN COMPARATIVE LITERATURE

Comparative literature is a wide-ranging, multicultural program of studies in poetry, prose, drama, film, and related arts. Offered by the Department of Foreign Languages and Literatures, the program is by nature interdisciplinary and has strong ties with several other departments in the University. In addition to the courses offered by the department in comparative literature and literatures

in foreign languages, the student is encouraged to take courses in English, humanistic geography, psychology, and visual and performing arts. One of the special aspects of the program is the emphasis on developing a practical and critical approach to texts. This may take the form of play production, seminars in translation of lyric poetry and drama, and supervised work in contemporary critical theory (i.e., relations between text and performance, spectator positioning, and reader response).

A distinctive feature of the program in comparative literature is the Comparative Literature Colloquium. The colloquium serves as the center within which students and faculty meet to discuss issues related to the critical and theoretic approaches to literature and related arts. It is primarily a place for the sharing of ideas and perspectives that may originally have been developed within the context of a particular discipline or research topic. The colloquium frequently invites guests from outside the University, as well as other Clark departments, to make presentations and lead discussions.

STUDY ABROAD

For summer-, semester-, and year-long programs of study abroad in France, Germany, Spain, and Italy, contact the Office of International Programs.

ADVANCED FOREIGN LANGUAGE COURSES LISTED BY AREA OF CONCENTRATION IN THE FRENCH, GERMAN, AND SPANISH MAJORS

LANGUAGE COURSES

French 120	<i>Ways of Writing, Ways of Speaking</i>
French 135	<i>Translation Workshop</i>
German 131	<i>Spoken and Written German</i>
German 134	<i>Translation Workshop</i>
Spanish 127	<i>Practice in Oral and Written Spanish</i>
Spanish 137	<i>Advanced Oral and Written Spanish</i>
Spanish 141	<i>Translation Workshop</i>

STUDIES IN LITERATURE

French 131	<i>Readings in French Literature I: History, Genres</i>
French 132	<i>Readings in French Literature II: Themes, Problems</i>
French 156	<i>History, Writing and Ideology - Twentieth-Century France</i>
French 171	<i>Visions of Change in Eighteenth-Century Literature</i>
French 174	<i>Studies in Autobiography</i>
French 175	<i>Sartre, Beauvoir, Camus</i>
French 181	<i>Figures of Femininity in French Literature</i>
French 183	<i>Narratives of Modernity</i>
French 185	<i>Women's Writing in Twentieth-Century France</i>
German 116	<i>Hesse, Kafka, Mann</i>
German 140	<i>Modern German Prose</i>
German 145	<i>The German Novelle</i>
German 156	<i>The Modern German Short Story</i>
Spanish 131	<i>Readings in Hispanic Literature I</i>
Spanish 132	<i>Readings in Hispanic Literature II</i>
Spanish 136	<i>Women in Hispanic Literature</i>
Spanish 138	<i>Hispanic Literature of Political Commitment</i>
Spanish 139	<i>Hispanic Caribbean Fiction</i>
Spanish 145	<i>Hispanic American Short Story</i>
Spanish 160	<i>The Age of Cervantes</i>
Spanish 180	<i>Latin American Literature in Translation</i>

STUDIES IN CULTURE

French 136	<i>Studies in French Culture</i>
French 156	<i>History, Writing, and Ideology in Twentieth-Century France</i>
French 158	<i>The French-Speaking World</i>
French 191	<i>French vs American Television</i>
German 112	<i>The Fairy Tales of the Brothers Grimm</i>
German 188	<i>The Culture of the Weimar Republic in Literature, Film, and the Arts</i>
German 197	<i>The Faust Theme in Literature and Music</i>
Spanish 133	<i>Hispanic Themes</i>
Spanish 143	<i>Latin American Essay and Thought</i>
Spanish 207	<i>Field Work in the Hispanic Community</i>

STUDIES IN FILM AND THEATER

French 160	<i>French Culture Seen Through Film: Jean Renoir</i>
French 163	<i>History of French Cinema: Before World War II</i>
French 165	<i>French Dramatic Expression: Play Production</i>
French 167	<i>French Cinema: The New Wave</i>
French 170	<i>The Modern French Theater: Experiments of the Avant-Garde</i>
German 150	<i>The New German Cinema</i>
German 166	<i>German Drama from Lessing to Brecht</i>
Spanish 140	<i>Spanish Dramatic Expression: Play Production</i>
Spanish 146	<i>Introduction to Cinema in Spain</i>
Spanish 147	<i>Studies in Spanish Cinema</i>
Spanish 148	<i>Introduction to Cinema in Latin America</i>
Spanish 149	<i>Studies in Latin American Cinema</i>

COURSES

- A. Classics
- B. French
- C. German
- D. Hebrew
- E. Italian
- F. Japanese
- G. Russian
- H. Spanish

A. CLASSICS

Greek 101-102 INTRODUCTORY GREEK/Lecture, Discussion

Refer to course descriptions under Classics Program listings.

Mr. Burke, Ms. Duncan-Groeneweg (1990-91)/Offered every year

Latin 101-102 INTRODUCTORY LATIN/Lecture, Discussion

Refer to course description under Classics Program listings.

Staff/Offered every year

B. FRENCH

French 101-102 ELEMENTARY FRENCH/Lecture, Discussion

Designed for students with no background in French or up to two years of high school French. Students work on all four language skills (listening, speaking, reading, writing) with the aim of developing an active knowledge of French.

Individual work is done in the language laboratory. In the second semester, students participate in a weekly conversation group with a French teaching assistant. No credit is given for French 101 until successful completion of French 102.

Staff/Offered every year

French 102.5 ADVANCED ELEMENTARY FRENCH/Lecture, Discussion

Designed as an entry-level course for students who have had more than two years of high school French or the equivalent but who are not yet ready for work at the intermediate level. The course emphasizes active communication through speaking and writing. Students participate weekly in small discussion groups with a French teaching assistant and work individually in the language lab.

Staff/Offered every year

French 103 INTERMEDIATE FRENCH I/Lecture, Discussion

This course offers consolidation of basic skills in French for students who have completed French 102 or the equivalent. The course includes a systematic review and expansion of fundamental grammatical structures. Our aim is to develop skills in oral and written expression. There are weekly conversation groups with a French teaching assistant as well as individual laboratory work. Prerequisite: French 102, 102.5, or equivalent determined by placement exam.

Staff/Offered every semester

French 104 INTERMEDIATE FRENCH II/Lecture, Discussion

This course serves as a bridge between the basic skills courses and the advanced courses in language, literature, and culture. Greater emphasis is placed on the reading of literary and cultural texts. Our aim is to develop the ability to articulate ideas and to partake in meaningful discussions in French. Grammar review is based on the specific needs of the group as revealed by class work and compositions. There are weekly conversation groups with a native French speaker. Prerequisite: French 103 or equivalent determined by placement exam.

Staff/Offered every semester

French 120 WAYS OF WRITING, WAYS OF SPEAKING/Lecture, Discussion

Third-year-level course designed to increase communicative competence and especially to develop skills in writing French. Models taken from literature and the media are used as a basis for creative and critical expression. The aim of the course is to develop awareness of different registers and social levels of French and to strengthen both grammatical control and range of language use. Prerequisite: French 104 or equivalent determined by placement exam.

Ms. Voiret, Ms. Bertolotti/Offered every semester

French 131 READINGS IN FRENCH LITERATURE I: HISTORY, GENRES/Lecture, Discussion

An introduction to the analysis and understanding of French literary texts and their visions of the world and of the self. This course focuses on literary structures and conventions that form the basis of different genres as they are expressed at different periods of history. Readings include a wide range of complete texts in prose, theater, and poetry. Prerequisite: French 104 or permission.

Ms. Kaufmann, Ms. Voiret/Offered every year

French 132 READINGS IN FRENCH LITERATURE II: THEMES, PROBLEMS/ Lecture, Discussion

A study of representative fictional and dramatic texts in the French literary tradition, organized thematically. Introduces the student to the ways literature reflects a nation's cultural and intellectual experience. Prerequisite: One third-year-level course or permission of the instructor.

Mr. Spingler, Ms. Voiret/Offered every year

French 135 TRANSLATION WORKSHOP/Lecture, Discussion

Students work intensively on various texts (advertising, journalism, theater, film scripts, and fiction) exploring theory, techniques, and problems of translation. The emphasis is primarily on translation from French into English and stresses lexical and syntactic aspects of comparative style. Students become acquainted with the variety of texts an American professional translator might expect to work on, including film subtitling. Prerequisite: French 120 or above or permission.

Mr. Spingler/Offered every other year

French 136 STUDIES IN FRENCH CULTURE/Lecture, Discussion

A cross-cultural course concentrating on the evolution of traditional French values, myths, and social institutions. We study the conventions and codes that determine and shape culturally based thought and perception. The course pays particular attention to the general question of ideology and representation as instruments of cultural placement and identity. Prerequisite: French 120 or above or permission.

Specific topics include:

1. Louis XIV's Gardens of Versailles and Napoleon III's redesigning of Paris as cultural texts that represent dominant political and social ideologies.
Mr. Spingler
2. issues of cultural identity and cultural difference, with particular attention to Franco-American (dis)connections.

Ms. Kaufmann/Offered every year

French 156 HISTORY, WRITING & IDEOLOGY: TWENTIETH- CENTURY FRANCE/Lecture, Discussion

An interdisciplinary analysis of France since World War I, using literature, social texts, and film. We focus on surrealism, the Popular Front, the Occupation, the French war in Algeria, consumer society and May '68, new cultural and artistic ideologies, and Mitterrand and the ambiguities of "normalization." Prerequisite: French 136 or equivalent.

Ms. Kaufman/Offered every other year

French 158 THE FRENCH-SPEAKING WORLD/Lecture, Discussion

An interdisciplinary analysis of the problematic role of the French language and the culture it represents in various parts of the world with emphasis on the Antilles, Algeria, and French-speaking Africa. Through literature, social texts, and film we explore such issues as bilingual colonialism; the question of *négritude*; the Algerian war; conflicts between indigenous and French social codes. Prerequisite: two courses at 130 or above, or permission of instructor.

Ms. Kaufmann/Offered every other year

French 160 FRENCH CULTURE SEEN THROUGH FILM: JEAN RENOIR/ Lecture, Discussion

A close analysis of the cinematic aesthetic and narrative strategies of the films of Jean Renoir, one of the leading and most influential figures in French cinema.

The course will trace the development of his art through a detailed study of a number of his films and filmscripts, and then focus particularly on the way two works, *The Grand Illusion* and *The Rules of the Game* explore the historical problem of a continuing presence of pre-revolution values and myths within twentieth-century French "republican" culture. Taught in English and French sections. Prerequisite for students receiving French credit: two third-year-level courses or permission.

Mr. Spingler/Offered every other year

**French 163 HISTORY OF FRENCH CINEMA: BEFORE WORLD WAR II/
Lecture, Discussion**

A study of the major experiments and classical traditions of French cinema prior to 1940. Through close analysis of films, film scripts, criticism, and some film theory, the course emphasizes the development of film as an art and the importance of the cinema to French culture and society. Film screenings include the work of René Clair, Louis Delluc, Abel Gance, Man Ray, Fernand Léger, Germaine Dulac, Jean Vigo, Jean Cocteau, Jean Renoir, Jean Grémillon, and Marcel Carne. Taught in English and French sections. Prerequisite for students receiving French credit: two courses at the 130 level.

Ms. Butzel/Offered every other year

**French 165 FRENCH DRAMATIC EXPRESSION:PLAY PRODUCTION/
Lecture, Discussion**

A workshop course using scene study as a way to help the student develop and refine skills in oral French through intensive practice in diction, phrasing, rhythm, and gesture. Close attention is also paid to the dramatic texts we study as theatrical works, particularly the way they function as representations of French cultural consciousness and identity. Prerequisite: French 120 or equivalent.

Mr. Spingler/Offered every other year

French 167 FRENCH CINEMA: THE NEW WAVE/Lecture, Discussion

Focuses primarily on the ground-breaking films of Jean-Luc Godard, which profoundly changed the "look" of contemporary cinema including American films. We view films by other members of the New Wave including François Truffaut, Louis Malle, and Claude Chabrol, but the course primarily explores how Godard's radical transformations of film form reflected the crisis in cultural and political consciousness in France in the 1960s.

Taught in English and French sections. Prerequisite for French credit: two third-year-level courses or permission.

Mr. Spingler/Offered every other year

**French 170 THE MODERN FRENCH THEATER: EXPERIMENTS OF THE
AVANT-GARDE/Lecture, Discussion**

A study of the origins and developments of the avant-garde theater of France with particular emphasis on the staging of the plays. The course focuses on the theater since 1950, especially works by Ionesco, Beckett, Genet, and Arrabal. Also explores the affinities between these playwrights and the Dada and surrealist movements and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French.

Mr. Spingler/Offered every other year

**French 171 VISIONS OF CHANGE IN EIGHTEENTH-CENTURY
LITERATURE/Lecture, Discussion**

This course examines how eighteenth-century literature endeavors to generate new frames of thinking and new definitions (in such areas as politics, society,

education, the family) essential to producing change. Attention is given to the diverse aesthetic modes used to carry out such a project (utopian travel accounts, philosophical tales and treatises, etc.). Readings from Voltaire, Rousseau, Diderot. Course taught in French. Prerequisite: Two third-year-level courses or equivalent.

Ms. Voiret/Offered every other year

French 174 STUDIES IN AUTOBIOGRAPHY/Lecture, Discussion

An exploration of the evolution of modes of subjectivity in French literature through major works of self-analysis and autobiography. For each writer, we explore the interplay between memory, self-creation, and narrative form as expressions of a particular sensibility in a particular historical period. Readings include Rousseau, Stendhal, Beauvoir, Sartre, Barthes, and Duras. Students are asked to write an autobiographical essay as part of their final project.

Ms. Kaufmann/Offered every other year

French 175 SARTRE, BEAUVOIR, CAMUS/Lecture, Discussion

A study of representative literary works of each writer in the context of his or her philosophical and political theories. We explore such questions as freedom and existential choice, the absurd, ideologies of revolt, and the aesthetics and ethics of *littérature engagée*.

Ms. Kaufmann/Offered periodically

French 180 Art of the City Project: Poets and Painters of Paris/Seminar

This course investigates the changing urban consciousness of nineteenth-century France by examining problems of representing the city through urban planning (architecture and urban landscape), and through the visual representation of Paris by two painters, Caillebotte and Manet, and the literary representation of Paris by two poets, Baudelaire and Rimbaud. Given in French. Prerequisite: two 130-level courses or permission.

Mr. Spingler/Offered every other year

French 181 FIGURES OF FEMININITY IN FRENCH LITERATURE/Lecture, Discussion

This course examines diverse representations of femininity in French literature. It compares the different meanings ascribed to that notion with special focus on historical and cultural aspects. Readings include: Racine, *Andromaque*; Rousseau, *Emile, la Nouvelle Heloise*; Stendhal, *le Rouge et le Noir*; Genet, *le Balcon*; Duras, *Barrage Contre le Pacifique*. Course taught in French. Prerequisite: Two third-year-level courses or equivalent.

Ms. Voiret/Offered every other year

French 183 NARRATIVES OF MODERNITY/Lecture, Discussion

Readings and discussions of selected narrative texts from the nineteenth and twentieth centuries. Works from several narrative forms such as the short story, the novel, the experimental short film, and the feature film are studied as examples of changing representations of "modern" social and psychological life. Particular emphasis is given to relating these narrative texts to the development of mass and artistic culture in France from the early modern to the postmodern period. Texts include fiction by Balzac, Flaubert, Zola, Gide, and films by Clair, Dulac, Bresson, Duras, Marker, and Godard. Prerequisite: two courses at the 130-level in French.

Ms. Butzel/Offered periodically

**French 185 WOMEN'S WRITING IN TWENTIETH-CENTURY FRANCE/
Lecture, Discussion**

The course is a study of major works of French fiction and theory as they question and illuminate each other. We explore these works in the context of the contemporary feminist controversy between theories of sexual equality and theories of sexual difference, particularly as they relate to notions of a distinctive *écriture féminine*. Readings include texts by Colette, Simone de Beauvoir, Hélène Cixous, Marguerite Duras, Luce Irigaray, Monique Wittig and Julia Kristeva. Conducted in French. (A modified version of this course is offered periodically in English as Comp. Lit. 215.)

Ms. Kaufmann/Offered every other year

French 191 FRENCH VERSUS AMERICAN TELEVISION/Lecture, Discussion

An advanced course in the cultural study of television and related audiovisual media in France and the Francophone world. Readings in screen theory, cultural criticism, and social theory provide students with a conceptual framework for the analysis of French programming in regional, national, and international contexts. Prerequisite: two courses at the 130 level in French.

Ms. Butzel/Offered every other year

French 199 ADVANCED TOPICS TUTORIAL/Seminar

A research seminar involving close reading and independent research on various topics in literature and culture. Topics vary according to the instructor but are sufficiently wide ranging to allow the student to identify an area of personal interest. Required of majors.

Ms. Kaufman, Mr. Spingler, Ms. Butzel/Offered every year

French 206 SPECIAL TOPICS IN FRENCH/Seminar

Offered for variable credit.

Staff/Offered every semester

**French 299 FRENCH, GERMAN, SPANISH: SEMINAR IN FOREIGN
LANGUAGE TEACHING-LEARNING/Seminar**

This ongoing seminar is especially arranged for our foreign language teaching assistants. Its goal is to explore different theories of foreign language learning and the methods and strategies developed from them. Students draw upon their own experiences as teachers and learners in the foreign language classroom in order to evaluate the strengths of different instructional approaches and improve their own teaching skills. Joint sessions with faculty are scheduled at regular intervals.

Staff/Offered every year

C. GERMAN

German 101-102 INTRODUCTORY GERMAN/Lecture, Discussion

Designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. No credit is given for German 101 until successful completion of German 102.

Mr. Kaiser, Mr. Schatzberg/Offered every year

German 103 INTERMEDIATE GERMAN I/Lecture, Discussion

This course offers consolidation of basic skills in German for students who have completed German 102 or the equivalent. The course includes a systematic review of German grammar and reading and discussion of selections adapted

from German language newspapers and magazines. Our aim is to develop skills in oral and written expression. There are weekly conversation groups with a native German speaker as well as individual laboratory work. Prerequisite: German 102 or equivalent.

Staff/Offered every year

German 104 INTERMEDIATE GERMAN II/Lecture, Discussion

This course serves as a bridge between the basic skills courses and the advanced courses in language, literature, and culture. During the first half of the semester the systematic review of grammar is completed. Subsequently greater emphasis is placed on the study of selected literary works to acquaint students with major themes of contemporary culture in West and East Germany. Our aim is to develop the ability to articulate ideas and to partake in discussions in German. There are weekly conversation groups with a native German speaker as well as individual laboratory work. Prerequisite: German 103 or equivalent.

Staff/Offered every year

German 106 SPECIAL TOPICS IN GERMAN

Offered for variable credit.

Staff/Offered every semester

German 131 SPOKEN AND WRITTEN GERMAN/Lecture, Discussion

This third-year course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving students' ability to express themselves in writing. Literary and journalistic texts serve as a basis for discussion of important issues in contemporary German. Weekly written assignments. Recommended for majors. Prerequisite: German 104 or equivalent.

Mr. Kaiser/Offered every year

German 134 WORKSHOP IN TRANSLATION/Lecture, Discussion

Gives students a practical, concrete experience of what it means to "translate" from one language into another. The student sees that the process is not nearly so simple as it may have seemed, but that there is a scale of texts, which range from the relatively easy to those that virtually defy rendering into another tongue. In the more difficult cases, it is demonstrated that there is no such thing as a mere rendering of a text into another language, but that the process in, say, poetry, requires transposition of a whole cultural reflex into another. Various kinds of texts are examined, from the sober style of the scientific article to the emotionally charged language of lyric poetry. Prerequisite: German 104 or equivalent.

Mr. Hughes/Offered every other year

German 140 MODERN GERMAN PROSE/Lecture, Discussion

Designed to familiarize the student with prose—from West and East Germany—by Kafka, Hesse, Mann, Böll, Grass, Plenzdorf, and Wolf; including discussions, oral and short written reports in German. Prerequisite: German 104 or equivalent.

Mr. Hughes/Offered every other year

German 142 GERMAN ROMANTICISM/Lecture, Discussion

An analysis of German romanticism from its beginning in the 1790s to its decline in the 1830s. Aesthetic credos, lyric poetry, the drama, major prose works (among them, the fairy tale as an art form) are discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers,

Hölderlin, Novalis, Tieck, Wackenroder, Kleist, Brentano, E.T.A. Hoffmann, Eichendorff, and Heine. Prerequisite: German 104 or equivalent.
Mr. Kaiser/Offered every other year

German 145 THE GERMAN NOVELLE/Lecture, Discussion

A historical and critical study of this uniquely German genre. Particular attention is paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one hand and from the novel on the other. Selections range from early romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration are discussed. Prerequisite: German 131 or equivalent.

Mr. Hughes/Offered every other year

German 156 THE MODERN GERMAN SHORT STORY/Lecture, Discussion

After years of isolation and stagnation during the Nazi period and after its collapse in 1945, young writers, eagerly trying to establish new values and anxious to link up again with the international literary developments, discovered the English and American short story with its well established tradition and adapted this model to the historical, social, and cultural conditions in Germany. The short story became the most important literary form during the post-war years and has maintained its significance to the present time. This course involves a careful reading of representative examples by leading modern German writers with special emphasis on thematic variety and structural complexities of the genre. Prerequisite: German 104 or equivalent.

Mr. Kaiser/Offered every other year

German 166 GERMAN DRAMA FROM LESSING TO BRECHT/Lecture, Discussion

Includes reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. Focuses on the sociopolitical aspects of these works, the aims and concepts of the dramatic art, and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Büchner, Schnitzler, Kaiser, and Brecht. Prerequisite: German 104 or equivalent.

Mr. Kaiser/Offered every other year

German 206 SPECIAL TOPICS IN GERMAN

Offered for variable credit.

Staff/Offered every semester

GERMAN LITERATURE COURSES CONDUCTED IN ENGLISH

German 112 THE FAIRY TALES OF THE BROTHERS GRIMM/Lecture, Discussion

Fairy tales are among the oldest and simplest forms of literature. They communicate archetypal patterns of human experience and societal behavior; they reflect human wisdom of all ages derived from all cultures; their moral teaching is universal and universally applicable. The well-known collection of the Brothers Grimm includes 210 fairy tales; about half of them are studied using different approaches to textual analysis in order to acquaint students with a variety of critical methods. No prerequisites.

Mr. Kaiser/Offered every other year

German 116 HESSE, KAFKA, MANN/Lecture, Discussion

A study of selected works including Hesse's *Steppenwolf*, Kafka's *The Trial*,

and Thomas Mann's *Death in Venice*. The focus of the course is on developing interpretations of individual works and contrasting the authors' literary techniques and world views.

Mr. Schatzberg/Offered every other year

German 150 THE NEW GERMAN CINEMA/Lecture, Discussion

A study of selected films of contemporary German film directors, Fassbinder, Herzog, Kluge, Schlöndorff, and Wenders. The goal of the course is to examine the cinematic technique and world view unique to each director as well as German-American cultural cross-currents and relevant social issues as represented in the films under consideration. Students are expected to study the films, read selected critical writings, write short film critiques, and produce a substantial paper dealing with some aspect of New German Cinema. Students may take the course for German language credit by participating in a German language tutorial and reading selected works in German.

Mr. Schatzberg/Offered every other year

German 188 THE CULTURE OF THE WEIMAR REPUBLIC IN LITERATURE, FILM, AND THE ARTS/Lecture, Discussion

Examines social and political satire and efforts at cultural regeneration between the First World War and the rise of Nazism. The following works are studied within the context of the period:

- Prose: Hesse's *The Steppenwolf*, Döblin's *Berlin Alexanderplatz*, Remarque's *All Quiet on the Western Front*
- Drama: Brecht's *A Man's a Man*, *St. Joan of the Stockyards*, *The Measures Taken*; Zuckmayer's *The Captain from Köpenick*
- Musicals: *Rise and Fall of the City of Mahagonny*, *The Three Penny Opera* (Brecht/Weil)
- Film: *M*, *The Blue Angel*, *The Three Penny Opera*, *Berlin Alexanderplatz*, *Kuhle Wampe*
- Painting: Georg Gross, Max Beckman, Otto Dix
- Architecture: The Bauhaus School

The course is conducted in English, but students may receive German credit by participating in a German language tutorial and reading selected works in German.

Mr. Schatzberg/Offered every other year

German 197 THE FAUST THEME IN LITERATURE AND MUSIC/Seminar

A study of man's search for forbidden knowledge and power as represented in literature and music by the character of Faust from the Reformation to the present. The legend of the defiant necromancer who sold his soul to the devil emerged in the sixteenth century and developed into one of the great themes of Western literature. Faust is the representative of each age in which he appears. He may be a universal figure embodying the ideal man, as he does in Goethe's masterpiece; or he may be the incarnation of the sin characteristic of an age or a nation, as he is in Thomas Mann's *Doctor Faustus*. The course explores the changing concepts of Faust from the beginnings of the legend in German folklore to the present, concentrating on the following major treatments of the theme: *The History of the Damnable Life and Deserved Death of Doctor John Faustus* (1582), Marlowe's *Dr. Faustus*, Goethe's *Faust, Part I and II*, Thomas Mann's *Dr. Faustus*, and some of the operatic treatments such as Gounod's *Faust*, Berlioz's *The Damnation of Faust*, Boito's *Mefistofele*, Busoni's *Doctor Faustus*. No prerequisites.

Mr. Kaiser/Offered every other year

German 199 ADVANCED TUTORIAL IN GERMAN LITERATURE/Lecture, Discussion

The content of this course is determined by the needs and interests of individual students. Ordinarily it is taken by majors in their senior year and as a capstone experience. Other advanced students of German language and literature may be invited to participate in the tutorials as space permits.

Staff/Offered every year

German 299 FRENCH, GERMAN, SPANISH: SEMINAR IN FOREIGN LANGUAGE TEACHING-LEARNING/Seminar

See Description under French 299.

Staff/Offered every year

D. HEBREW

Hebrew 101-102 ELEMENTARY HEBREW/Lecture, Discussion

Modern, conversational Hebrew. Emphasis on speaking, reading, writing, and listening skills. Acquisition of vocabulary and basic grammar through conversation, drills, reading of simple texts, and listening to tapes. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. No credit is given for Hebrew 101 until successful completion of Hebrew 102.

Ms. Bitran/Offered every year

Hebrew 103 INTERMEDIATE HEBREW/Lecture, Discussion

A survey of significant texts of the biblical and post-biblical period. Enrichment and reinforcement of verbal expressions and grammatical structures. Classes meet three times weekly and are supplemented by individual work in the language laboratory and one hour of drill. Hebrew 102 or the equivalent required.

Ms. Bitran/Offered every year

Hebrew 104 INTERMEDIATE/ADVANCED HEBREW/Lecture, Discussion

A survey of significant Hebrew texts of the pre-modern and modern periods. Literature and newspapers are employed. Enrichment of verbal and written expressions and grammatical structures. Classes meet twice weekly and are supplemented by individual work in the language laboratory and one hour of drill. Hebrew 103 or the equivalent required.

Ms. Bitran/Offered every year

HEBREW LITERATURE/JUDAIC STUDIES COURSES CONDUCTED IN ENGLISH

Hebrew 117 INTRODUCTION TO THE HEBREW BIBLE I: NARRATIVE AND LAW/Lecture, Discussion

A close reading (in English) of the first half of the Hebrew Bible, Genesis through Kings II. Issues to be considered include: the rise of Israel against the background of the Ancient Near East, myth and history in the ancient world, biblical storytelling as an artistic and ideological form, and the world view behind biblical laws and rituals. Also discussed is the process by which the Bible took shape, in relation to ancient Israel's self-understanding. The tools of recent research in comparative religion, anthropology, archaeology, and literature are utilized. We also stress the contribution of this literature to Western thought.

Mr. Fox/Offered every year

Hebrew 118 INTRODUCTION TO THE HEBREW BIBLE II: PROPHECY AND POETRY/Lecture, Discussion

A close reading (in English) of the poetic portions of the Hebrew Bible, from Isaiah through the Writings. The prophetic revolution in Israel is evaluated: its roots, its impact on its own society as well as on later social and cultural criticism in the West. The artistry of biblical poetry is analyzed, along with the thematics of piety, despair, resignation, and eroticism that are found in such books as the Psalms and the Song of Songs. Finally, books of a more philosophical bent (Ecclesiastes, Job), which question the earlier assumptions of biblical faith, are read. As in Hebrew 117, emphasis is placed on the influence of the Bible on later thinking in the West.

Mr. Fox/Offered every year

Hebrew 120 GREAT JEWISH LIVES/Lecture, Discussion

Jewish history viewed through the mirror of selected biographies. Using the medium of outstanding/unusual life journeys, some of them shrouded in legend, we examine key issues of specific periods: the conflict between two cultures, tradition in crisis, and the search for authentic self. Also considered are the roots of legend as a historical force. Figures to be encountered (which change each time the course is offered) include: the biblical prophet Elijah, rabbinical heretic Elishah ben Abuyah, medieval Spanish poet Jodah Ha-Levi, seventeenth-century false Messiah Sabbetai Zevi, pious woman autobiographer Glueckel of Hamelin, Hasidic master Israel ben Eliezer (the Baal Shem Tov), founder of political Zionism Theodor Herzl, and twentieth-century German-Jewish philosopher and teacher Franz Rosenzweig.

Mr. Fox/Offered every other year

Hebrew 122 WORKSHOP IN JUDAISM: SACRED TIME AND THE LIFE CYCLE/Lecture, Discussion

Using the tools of the history of religion and anthropology, this course treats the place of rituals of time in human life and in Judaism in particular. In general, the focus is on issues of myth and ritual, and on the cultural spread of forms. In the case of Judaism, topics include: early forms and sources, the development of the sacred calendar, the transformation of form and meaning of individual rituals, and parallels throughout the world. Special attention is given to recent Jewish religious expression and to developments in the Jewish women's movement.

Mr. Fox/Offered every other year

Hebrew 123 THE MIDRASHIC TRADITION/Lecture, Discussion

An English language study of Midrashic literature, the primary Jewish literary expression after the Bible. Written down mainly during the Roman period, the texts comprise independent legends about supernatural beings, writings about biblical characters (filling in gaps in the biblical stories), traditions about the lives of the ancient rabbis, and wide-ranging statements about worldly wisdom, ethical values, and political reality. Sources are read with an eye toward what they reveal about ancient Jewish society and in the light of recent work in folklore studies. A final unit considers later forms of Midrash, such as Hasidic and contemporary variations.

Mr. Fox/Offered every other year

Hebrew 127 MODERN JEWISH ETHICS/Lecture, Discussion

The course aims at conveying a working notion of Jewish law (*halacha*) and its many sources and at examining some contemporary problems in the light of what Judaism has to say about them. Distinction is made between *halacha*

and ethics, and between traditional and liberal interpretations of Jewish ethics. Current problems to be discussed include: issues of war and peace (e.g., pacifism and civil disobedience), medical issues (e.g., abortion, euthanasia, artificial insemination/surrogate parenting), and sexual ethics.
Staff/Offered every other year

Hebrew 130 SUFFERING AND EVIL IN JEWISH TRADITION/Lecture, Discussion

A central problem in Western religious thought is theodicy: how to explain the existence of suffering and evil in a world ruled by a supposedly benevolent God. The course examines a wide variety of Jewish sources on the problem, which propose a wide variety of answers. Central is the biblical book of Job and its interpretations through the centuries; at the other end of history, responses to the Holocaust are considered.

Mr. Fox/Offered every other year

Hebrew 185 MODERN JEWISH LITERATURE/Lecture, Discussion

Through the use of Yiddish and Hebrew literature in translation, this course surveys the creation of modern Jewish literature in the nineteenth and twentieth centuries. The pioneers of Yiddish literature (Mendele Mocher Seforim, Sholom Aleichem, Peretz) and Hebrew literature (Ahad HaAm, Bialik, Brenner, Frishman) are discussed.

Staff/Offered every other year

E. ITALIAN

Italian 101-102 ELEMENTARY ITALIAN/Lecture, Discussion

Designed for students with no previous study of Italian, aimed at acquisition of basic speaking, reading, and writing knowledge of the language. Three hours weekly plus laboratory practice. No credit is given for Italian 101 until successful completion of Italian 102.

Ms. Marinus/Offered every year

Italian 103 INTERMEDIATE ITALIAN I/Lecture, Discussion

This course offers consolidation of basic skills in Italian for students who have completed Italian 102 or the equivalent. The course includes a systematic review and expansion of fundamental grammatical structures. Our aim is to develop skills in oral and written expression. Prerequisite: Italian 102 or equivalent.

Ms. Marinus/Offered every semester

Italian 104 INTERMEDIATE ITALIAN II/Lecture, Discussion

This course places greater emphasis on the reading of literary and cultural texts. Our aim is to develop the ability to articulate ideas and to partake in meaningful discussions in Italian. Grammar review is based on the specific needs of the group as revealed by class work and compositions. Prerequisite: Italian 103 or equivalent.

Ms. Marinus/Offered every semester

F. JAPANESE

Japanese 101-102 ELEMENTARY JAPANESE/Lecture, Discussion

An introduction to the Japanese language, with emphasis on speaking, listening, reading, and writing. In addition to spoken Japanese, students learn *hiragana* and *katakana* in the first semester, and begin learning *kana*ji in the second.

Ms. Aoki/Offered every year

Japanese 103-104 INTERMEDIATE JAPANESE/Lecture, Discussion

A continuation of first-year Japanese, with emphasis on learning *kanji*, mastering more complex grammatical forms, and increasing fluency in spoken Japanese. Prerequisite: Japanese 101-102 or permission.

Ms. Aoki/Offered every year

Japanese 150 LITERARY PERCEPTION OF HISTORY: JAPAN/Lecture, Discussion

The first few weeks are devoted to a basic understanding of the institutional and social history of Japan. The course then explores literary works of various eras, each dealing with a specific socio-economic and political situation. Films and other audio-visual aids are often utilized in addition to the reading materials in translation. A knowledge of Japanese is helpful, but not required. No prerequisites.

Ms. Aoki/Offered every other year

G. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross through the Worcester Consortium for Higher Education.

Russian for Reading 100 - 200

This course is designed to develop reading skills as quickly as possible through a concise introduction to grammar during the first semester. Semester II is devoted to reading from the humanities, and the social and natural sciences. Special interests and needs of the students are considered when selecting materials to be read. This course is also open to graduate students and to faculty. No prerequisites.

Ms. McAuley/Offered every other year

Russian 101-102 INTRODUCTORY RUSSIAN/Lecture, Discussion

Focus is on the mastery of first-year grammar. Students are also exposed to various aspects of Russian and Soviet culture through video programs, films, field trips, special lectures, and the press. Lectures three hours per week and intensive oral practice in small sections two hours per week. Optional work in the language laboratory and drill work on computers. No credit given for Russian 101 only. No prerequisites.

Ms. McAuley/Offered every year

Russian 103-104 INTERMEDIATE RUSSIAN/Lecture, Discussion

Mastery of intermediate Russian grammar. Focus is on idiomatic usage in oral and written expression as well as aural and reading comprehension. Systematic study of Russian gestures and bi-weekly translation assignments of articles from Soviet press. Lectures three hours per week and two hours in small drill sessions, which includes the viewing of Soviet TV. Prerequisites: Russian 102 or by a special oral and written placement examination.

Ms. McAuley/Offered every year

Russian 106 DIRECTED READINGS

Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian. Offered for variable credit.

Mr. Hughes/Offered every year

RUSSIAN LITERATURE COURSES CONDUCTED IN ENGLISH

Russian 185 THE RUSSIAN NOVEL IN THE NINETEENTH CENTURY/ Lecture, Discussion

An examination of representative great Russian epics of the last century in English translation. They are considered both as works of literary art and as social and historical artifacts. Readings may vary depending on the availability of texts but usually include Tolstoy's *Anna Karenina*, Dostoevsky's *The Brothers Karamazov*, Gogol's *Dead Souls*, Goncharov's *Oblomov* and Turgenev's *Fathers and Children*. Some reading in Russian intellectual history and in the "radical democratic" critics.

Mr. Hughes/Offered every other year

Russian 187 THE RUSSIAN NOVEL IN THE TWENTIETH CENTURY/ Lecture, Discussion

A consideration of representative Russian novels of the twentieth century in English translation in their historical and social context. Readings may vary depending on the availability of texts but probably include such pro-Soviet works of "socialist realism" as Gorky's *Mother* and Sholokhov's *Quiet Flows the Don*, experimental fiction like Zamyatin's *We*, and counterrevolutionary works such as Pasternak's *Dr. Zhivago*, Bulgakov's *Master and Margarita*, and Solzhenitsyn's *Cancer Ward*. Some reading in Russian intellectual history and in the formalist and Marxist critics.

Ms. McAuley/Offered every other year

H. SPANISH

Spanish 101-102 ELEMENTARY SPANISH/Lecture, Discussion

For students with no previous knowledge of the language, this course is aimed at developing basic skills in speaking, reading, and writing Spanish. The class meets for three hours per week; regular class assignments are supplemented by individual work in LARC (the Language Arts Resource Center). No credit is given for Spanish 101 until successful completion of Spanish 102.

Mr. D'Lugo, Ms. D'Lugo, Ms. Acosta Cruz, Mr. Ferguson/Offered every semester

Spanish 102.5 ELEMENTARY SPANISH: INTENSIVE/Lecture, Discussion

An accelerated elementary course, intended for students who have already begun the study of Spanish but who do not yet qualify for intermediate-level courses. Three hours per week, plus individual work in the Language Arts Resource Center.

Mr. D'Lugo, Ms. Montross, Staff/Offered every semester

Spanish 103 INTERMEDIATE SPANISH I/Lecture, Discussion

The first of the intermediate-level courses, Spanish 103 strengthens basic skills in the language through a variety of exercises, including taped interviews with native speakers, improvisational acting, and discussions centered around readings on Hispanic culture and society. Grammar review is geared to the specific needs of the group. Prerequisite: Spanish 102.

Ms. D'Lugo, Mr. D'Lugo, Mr. Ferguson/Offered every semester

Spanish 104 INTERMEDIATE SPANISH II/Lecture, Discussion

Normally taken after 103, Spanish 104 includes more extensive readings on Hispanic themes as the basis for class discussion and student essays. Emphasis is on activities in reading, writing, speaking, and conversational understanding as a preparation for more advanced work. Prerequisite: Spanish 103.

Ms. Montross, Staff/Offered every semester

Spanish 127 PRACTICE IN ORAL AND WRITTEN SPANISH/Lecture, Discussion

A transitional course between intermediate Spanish and the upper-level offerings, intended to help students develop fluency and sophistication in spoken and written Spanish. Classes emphasize practice in conversation, composition, and advanced grammar review. Prerequisite: Spanish 104.

Ms. D'Lugo, Staff/Offered every semester

Spanish 131-132 READINGS IN HISPANIC LITERATURE/Lecture, Discussion

An introduction to modern Hispanic narrative, lyric, and dramatic literature. The course covers representative authors of both Spain and Latin America; works are studied with a view to their literary, social, cultural, and political context. Readings are chosen to illuminate a particular theme that changes each semester: for example, the idea of cultural continuity and modernity, notions of norm and deviance in the Hispanic community, or the concept of revolution as a collective and individual ideal. Since course content is variable, students may elect to take the course twice. (If they do so, the transcript will show credit for both Spanish 131 and Spanish 132.) Conducted in Spanish. Prerequisite: Spanish 127. Required for majors.

Ms. D'Lugo, Mr. D'Lugo, Mr. Ferguson/Offered every year

Spanish 133 HISPANIC THEMES/Lecture, Discussion

A third-year course designed to introduce the student to the diversity of Hispanic culture through a variety of readings from literature, history, and cultural anthropology, as well as current periodicals in Spanish. The course focuses on one or two of the following national cultures: Chile, Cuba, Mexico, Spain, Argentina. Topics normally covered include parallel development of Anglo-American and Hispanic cultural institutions, changing identity of the family and the individual in twentieth-century society, the emerging identities of women in these societies, and a comparison with the traditional Hispanic definition of women's role. Conducted in Spanish. Prerequisite: Spanish 131. Required for majors.

Mr. Ferguson, Ms. D'Lugo/Offered every year

Spanish 136 WOMEN IN HISPANIC LITERATURE/Lecture, Discussion

A study of the presence of women in Hispanic literature, with a special emphasis on the twentieth century. Topics to be discussed include alienation, identity, family structure, violence against women, and problematical relationships to the patriarchal social order. Readings include major works from both the Spanish and Latin American tradition. Conducted in Spanish. Prerequisite: Spanish 131.

Ms. O'Connell, Staff/Offered every other year

Spanish 137 ADVANCED ORAL AND WRITTEN SPANISH/Lecture, Discussion

An advanced language course that offers a rapid review of grammar with exercises in composition, pronunciation, and intonation. Conducted in Spanish. Prerequisite: Spanish 131. Required for majors.

Ms. Acosta Cruz, Ms. Montross/Offered every year

Spanish 138 HISPANIC LITERATURE OF POLITICAL COMMITMENT/Lecture, Discussion

A study of the creative writer's position vis-à-vis the demands of revolutionary change in the twentieth century. Writers discussed include Pablo Neruda, César

Vallejo, Ernesto Cardenal, Francisco Ayala, and Miguel Hernández; Cuban writers and poets in their sometimes ambiguous relationship to their country's revolution; the writers of the Chicano movement and the dream of Aztlán; and Puerto Rican authors, both on the mainland and on their native island. Conducted in Spanish. Prerequisite: Spanish 131.
Mr. Ferguson/Offered every other year

Spanish 139 HISPANIC CARIBBEAN FICTION/Lecture, Discussion

Readings and discussions of selected works by the principal figures in Spanish-language fiction from the Caribbean Basin. Works studied are mostly from the nineteenth and twentieth centuries. Representative works from all genres are examined in order to review the literary expression and major concerns of Hispanic Caribbean literature such as Afro-Antillean cultural movements, neobaroque literature, and literary search for national identity. Conducted in Spanish. Prerequisite: Spanish 131.
Ms. Acosta Cruz/Offered every other year

Spanish 140 SPANISH DRAMATIC EXPRESSION: PLAY PRODUCTION/Lecture, Discussion

Intended to acquaint the student with the rhythms, intonations, and gestures typical of contemporary spoken Spanish. Through the study and eventual presentation of two or more contemporary dramatic works, students gain practical experience in linguistic and cultural skills. Although some consideration is given to the texts as literature, the course is primarily a workshop in advanced oral Spanish. Prerequisite: Spanish 104.
Staff/Offered every year

Spanish 141 SPANISH TRANSLATION WORKSHOP/Lecture, Discussion

A course intended to enable students to translate a wide variety of texts (including commercial and technical documents) from Spanish into English, and vice versa. Classes alternate between formal sessions, in which basic linguistic theory is taught, and workshop sessions, in which students use the techniques learned to translate printed material. Prerequisite: Spanish 131.
Staff/Offered every year

Spanish 143 LATIN AMERICAN ESSAY & THOUGHT/Lecture, Discussion

Overview of history and development of Latin American culture throughout the nineteenth and twentieth centuries. The course explores the ways in which Latin American writers have tried to define what Latin America is, and how they have sought to differentiate its culture from that of traditional European thought. Conducted in Spanish. Prerequisite: Spanish 131.
Ms. Acosta Cruz/Offered every other year

Spanish 145 HISPANIC AMERICAN SHORT STORY/Lecture, Discussion

An introduction to the tradition and development of short narrative in Hispanic America, from its beginnings in colonial chroniclers through the progressive refinements of theme, local color, style, and narrative technique that led to the fictions of the twentieth-century "Boom" and beyond. Readings include works by Rubén Darío, Horacio Quiroga, José Luis Borges, Carlos Fuentes, Julio Cortázar, Juan Rulfo. Conducted in Spanish. Prerequisite: Spanish 131.
Mr. Ferguson, Ms. D'Lugo, Ms. O'Connell/Offered every year

Spanish 146 INTRODUCTION TO CINEMA IN SPAIN/Lecture, Discussion

A historical survey of principal Spanish films and filmmakers of the past fifty years in the context of political and social change in Spain. Among the issues

under consideration are the formulation of a cultural ideology through *franquista cinema* in the 1940s and the rise of opposition cinema in the 1950s until 1975, the operations of film censorship, the rise of regional film cultures in post-Franco Spain, and auteurism and the national/international audiences of Spanish cinema. Conducted in Spanish.

Mr. D'Lugo/Offered every other year

Spanish 147 STUDIES IN SPANISH CINEMA/Lecture, Discussion

This course is designed to provide students with the opportunity to explore in close detail a number of issues related to the development of film and film culture in Spain. Topics vary each time the course is offered. Sample topics: Film auteurs (Almodóvar, Borau, Buñuel, Gutiérrez, Aragón, Saura); Spanish and foreign constructions of national identity through cinema; female empowerment. Conducted in English.

Mr. D'Lugo/Offered every other year

Spanish 148 INTRODUCTION TO CINEMA IN LATIN AMERICA/Lecture, Discussion

A survey of representative film cultures, directors, and works in Latin America, with special emphasis on developments in Argentina, Brazil, Cuba, and Mexico. Among the issues under consideration are the politics of representation, cultural nationalism in Latin American cinema, issues of authorship, and alternative film practices in Third World cinema. Conducted in English; Spanish major credit available.

Mr. D'Lugo/Offered every other year

Spanish 149 STUDIES IN LATIN AMERICAN CINEMA/Lecture, Discussion

This course is designed to provide students with the opportunity to explore in close detail a number of issues related to the development of film and film culture in Latin America. Topics vary each time the course is offered. Sample topics: Film auteurs: (Alea in Cuba; Solanas in Argentina; Diegues in Brazil; "Indio" Fernández in Mexico); race, gender, and ethnicity in various Latin American cinemas; cinema as political intervention. Conducted in English.

Mr. D'Lugo/Offered every other year

Spanish 160 THE AGE OF CERVANTES/Lecture, Discussion

An introduction to Spanish literature and society in the Golden Age, from the era of the Catholic monarchs to the death of Cervantes and beyond. Through a close examination of representative works in a variety of genres, the course traces the development of the Spanish imagination from the flowering of Renaissance humanism through the Counter-Reformation and the birth of the baroque, a profile of the brilliance and despair that characterizes Spain in these imperial centuries. Conducted in Spanish. Prerequisite: Spanish 131.

Mr. Ferguson/Offered every other year

Spanish 180 LATIN AMERICAN LITERATURE IN TRANSLATION/Lecture, Discussion

This course examines major works of Latin American literature, including the Spanish-speaking countries and Brazil, with an emphasis on the cultural, political, and social context in which these literatures function. Topics include "Boom" and post-"Boom" literature, the realist novel and reactions against it, women writers, ideas of cultural identity, the role of the author in Latin America, and the effects of major historical events such as the Cuban Revolution. Different genres will be covered. Conducted in English; major credit in Spanish available. Prerequisite: permission of instructor.

Ms. Acosta Cruz, Ms. D'Lugo/Offered every other year

Spanish 199 ADVANCED TOPICS TUTORIAL/Seminar

Close readings and discussion of representative works by major Spanish writers of the premodern period. Ordinarily it is a required course for majors in their senior year as a capstone experience. Topics for 1988-90: the Spanish Baroque, the Mexican novel, Don Quijote, Spanish Realism. Conducted in Spanish.

Ms. Acosta Cruz, Ms. D'Lugo, Mr. D'Lugo, Mr. Ferguson/Offered every semester

Spanish 206 SPECIAL TOPICS IN SPANISH/Seminar

Offered for variable credit.

Staff/Offered every semester

Spanish 207 FIELD WORK IN THE HISPANIC COMMUNITY/Seminar

This course offers an opportunity to work in one of a variety of community agencies and projects serving the Hispanic community in Worcester (the bilingual school program, Casa de la Comunidad, Worcester Legal Services, etc.). Student work is supervised by a campus advisor and a designated supervisor from the cooperating agency; the student is also expected to keep a journal—to be submitted at the end of the semester—in which particulars of language, culture, and related problems of the bilingual community are critically examined. Prerequisites: proficiency in Spanish; successful completion of course work in the field or fields related to the specific project area; permission of instructor. Offered for variable credit.

Ms. Acosta Cruz/Offered every year

Spanish 299 FRENCH, GERMAN, SPANISH: SEMINAR IN FOREIGN LANGUAGE TEACHING-LEARNING/Seminar

See description under French 299.

Staff/Offered every year

French

See Department of Foreign Languages and Literatures.

Geography

GRADUATE SCHOOL OF GEOGRAPHY FACULTY

Susan Hanson, Ph.D., *director*: urban/social geography, transportation, research methods, geography and gender

David P. Angel, Ph.D.: urban/economic geography, social theory

Martyn J. Bowden, Ph.D.: cultural humanistic and historical/urban/social geography

J. Ronald Eastman, Ph.D.: cartography, geographic information systems

Jacque L. Emel, Ph.D.: resource management, political geography, hydrology

Stanley R. Herwitz, Ph.D.: biogeography, hydrology, watershed ecology

Douglas L. Johnson, Ph.D.: cultural ecology, arid lands management

Gerald J. Karaska, Ph.D.: urban/economic geography, development

Roger E. Kasperson, Ph.D.: hazards, environment and society, global change

William A. Koelsch, Ph.D.: history of geography, cultural-environmental history

Laurence A. Lewis, Ph.D.: geomorphology, tropical agriculture and environment

Robert Cameron Mitchell, Ph.D.: environment and society, risk perception, survey research methodology

Richard Peet, Ph.D.: political economy, Marxist geography

Samuel J. Ratick, Ph.D.: hazards, environment and public policy, modeling, quantitative methods

Dianne E. Rocheleau, Ph.D.: human/political/systems ecology, Third World forestry and agriculture

Henry J. Steward, Ph.D.: cartography, remote sensing

B.L. Turner II, Ph.D.: cultural/human ecology, global change, Third World agriculture

AFFILIATE FACULTY

Leonard Berry, Ph.D.

Robert W. Kates, Ph.D.

STAFF

Anne Gibson, M.A.: research cartographer, cartographic lab manager

Jean Heffernan: assistant to the director

Beverly Presley, A.M.L.S.: map and geography librarian

EMERITI

Duane S. Knos, Ph.D.

Harry E. Schwarz, B.C.E., P.E.

The Graduate School of Geography was organized in 1921 and is now the oldest doctoral-granting department of geography in the United States. In addition, the School offers an undergraduate major and a seven-year program (B.A./Ph.D. degree). The program emphasizes individual attention through close student-teacher relationships.

ONGOING RESEARCH

The Graduate School of Geography has a cooperative research agreement with the Institute of Geography of the USSR Academy of Sciences. Several research projects involving global environmental research and geographic information systems are currently in progress. Exchanges of students involved in cooperative research are also a possibility.

The Geography School is the center for a major international and interdisciplinary program of investigation of "The Earth as Transformed by

Human Action," a joint research program with Clark's Center for Technology, Environment, and Development (CENTED). Cosponsored by such institutions as the International Institute for Applied Systems Analysis and the World Resources Institute, this project seeks to fuse the social and natural sciences in documenting and understanding the past 300 years of human impact on the biosphere. A major symposium exploring these issues took place at Clark in October, 1987. Current activities include publication of the symposium papers and new research programs dealing with critical environmental zones in global change, the development of an interactive electronic atlas, implications of potential sea-level rise, and an assessment of current knowledge on global risk analysis. The project houses a Macintosh desktop publishing system and related hardware. Program participants are B.L. Turner II (coordinator), William B. Meyer (associate coordinator), Roger E. Kasperson, Robert C. Mitchell, Samuel Ratick, and other researchers at CENTED.

Geography faculty are also involved in CENTED, an interdisciplinary research institution at Clark that addresses issues in environmental and technological hazards, energy issues, and international development. Major ongoing projects headed by Roger E. Kasperson and Samuel Ratick include siting of hazardous waste facilities, evaluating risk communication, risk assessment on high-level nuclear waste disposal in Nevada, and the social amplification of risk, a two-year project supported by a grant from the National Science Foundation.

The Geography School is involved in an institutional cooperative agreement with the United States Agency for International Development (USAID) on the subject of Settlements and Resources Systems Analysis (SARSA); this project builds the institutional capacity of the University to support research and provide technical assistance to the overseas missions of USAID. Interdisciplinary in scope, this project is headed by Gerald J. Karaska and has ongoing projects on three continents.

Other funded research within the School involves local labor markets and women's employment, impacts of the Alaska oil spill, industrial restructuring, water policy in the southern Great Plains, perception of water quality, soil erosion in Central Africa, and Indian agriculture in the Americas in 1492.

GEOGRAPHY UNDERGRADUATE PROGRAM

The undergraduate program offers a major in geography, covering a three-year period (sophomore-senior) during which 50 to 80 percent of the student's course work is accounted for by program requirements that include courses in geography and related fields. A minimum set of required geography courses is built into the major, and coursework in related fields is selected in consultation with the student's advisor in light of individual needs.

The departmental advisory system is headed by a central undergraduate advisor who advises all incoming majors. As students advance through the program, they may select another advisor whose interests best match their own. A geography major's courses for each semester must be approved by the advisor.

Emphasis in the undergraduate major is on broad training in the field of geography as well as on some specialization within the field. The department has facilitated specialization by organizing courses into areas of concentrated interest, or streams, and students are encouraged to take a series of courses in one or two of these streams. Within the streams, courses are sequential to allow a progressive building of knowledge and skills from 00-level to 100-level to 200-level courses. The streams at the undergraduate level are:

- a. cultural/humanistic
- b. environmental/resource management
- c. physical geography of human systems

- d. regional/international development/political economy
- e. urban/social and economic/planning
- f. cartography/remote sensing/geographic information systems

Geography majors are also required to become proficient in research methods and encouraged to gain skills in quantitative methods, computer programming, and mapping.

The Geography Student Organization (GSO) functions as a professional and social outlet for undergraduates. Students are encouraged to participate in its career seminars, trips, and other activities.

REQUIREMENTS FOR GEOGRAPHY MAJORS

To graduate as a geography major, a student must complete the following requirements:

1. Within the School of Geography
 - a. Geography 011, *Survey of Geography*
 - b. Two courses selected from among the following:
 - Geography 014, *Introduction to Physical Geography*
 - Geography 015, *Introduction to Economic Geography*
 - Geography 017, *Introduction to Cultural Geography*
 - Geography 018, *Introduction to Urban Geography*
 - Geography 019, *Introduction to Environmental Geography: The Global Environment*
 - Geography 027, *Geography of the Third World*
 - Geography 035, *American Land, American Mind*
 - Geography 037, *Gender, Space and Environment*
 - c. Two skills courses selected from among the following:
 - Geography 110, *Computer and Quantitative Methods: Introduction*
 - Geography 247, *Computer and Quantitative Methods: Intermediate*
 - Geography 137, *Time and Space in Old and New England*—for students in the cultural/humanistic stream

(In addition, the department accepts a second-year, second-semester language course as a skill. Other courses equivalent to those listed above may be accepted by the student's advisor.)
 - d. Geography 141, *Research Methods in Geography*
 - e. Two geography courses at the 200 level in selected stream
 - f. Two additional geography courses: one at the 100 level and one at the 200 level
 - g. Geography 285, *Capstone Seminar: Themes in Geography*
2. In Disciplines Related to Geography

Four elective courses in related disciplines, selected in consultation with the student's advisor.

DUAL MAJOR REQUIREMENTS

For students majoring in geography and another discipline, the requirements for coursework within the School of Geography are: *Survey of Geography* (011), one 00-level introductory course, one skills course, *Research Methods in Geography* (141), two geography courses at the 200 level in selected stream, and *Capstone Seminar: Themes in Geography* (285).

HONORS PROGRAM IN GEOGRAPHY

Students with an outstanding academic record are eligible to participate in the Geography Honors Program. To graduate with honors in geography the student must successfully complete either a one- or two-credit independent honors project conducted under the supervision of a faculty member.

The Geography Honors Program is open to juniors who, by the end of the first semester of the junior year, have a minimum grade point average of 3.25 overall and 3.5 in the geography major (geography courses and related courses) and who can demonstrate that they have the appropriate research background required to undertake independent geographic research.

The student who wants to carry out a two-semester honors thesis must register for geography honors the spring semester of the junior year and the fall semester of the senior year. A thesis proposal must be approved by the supervising faculty member by November 1 in the student's junior year.

Students wishing to pursue a one-semester honors thesis can do so either in spring of the junior year or in fall of the senior year. The deadline for approval of the thesis proposal is November 1 of the junior year if the thesis is to be completed in the junior year. It is April 1 of the junior year if the thesis is to be written in the fall semester of the senior year.

Students interested in the Geography Honors Program should get additional details from the undergraduate advisor in the School of Geography.

SEVEN-YEAR B.A./PH.D. PROGRAM

A formal seven-year program leading to the Ph.D. degree in geography is offered for Clark undergraduate students. At the undergraduate level, applicants must major in geography, major in a related field, or complete a dual major in geography, and make application by February 1 of the junior year. The B.A./Ph.D. program usually includes spending the sixth year off campus in residence at another university or agency. Admissions are limited to a very small number of highly qualified students and in subfields of concentration that are appropriate to Clark's range of offerings. For specific information, contact the director of the School of Geography.

THE GRADUATE SCHOOL OF GEOGRAPHY PH.D. PROGRAM

Admissions

Applicants with or without prior training in geography are welcome. Depending on their concentrations, students may be required to improve their knowledge of geography, cartography, or research methods. Courses taken to remedy any deficiencies will not count as part of the regular program. Graduate Record Examination scores, verbal and quantitative, are required of all American students. TOEFL scores or results of another English proficiency test are required for students from countries in which English is not the first language.

Graduate Program

The graduate program of study in geography at Clark focuses on the Ph.D. degree, and only those students seeking full-time training for that degree are admitted into the program.

Degree Objectives

As prospective members of the geography community, graduate students work toward the following objectives:

1. development of extensive knowledge in the content of geography and competence in the use of research skills
2. development of a sense of problem (research problems are at the core of an experiential learning process)
3. development of divergent thinking skills from which creative and original ideas evolve
4. development of a sense of the tentativeness of knowledge and a patience with ambiguity

5. development of a tough-minded learning discipline
6. development of a sense of self-confidence and competence
7. development of a sense of the nature of the community of geographers.

The program is designed to enable students to focus their learning experience with these guidelines in mind. For specific graduate requirements, interested students should consult the School's separate graduate program statement of requirements, available upon request.

Program Structure

The graduate curriculum is organized to give a broad view of the field of geography and its teaching, as well as a specialized approach to selected subfields. The subfields, organized in accordance with the interests and competencies of the faculty, include: cultural/humanistic, environmental/resource management, physical geography of human systems, regional/international development/political economy, urban/social and economic/planning, and cartography/remote sensing/geographic information systems. In addition, ongoing projects conducted by research groups in the School of Geography, the Center for Technology, Environment, and Development (CENTED), the program for International Development (ID), and the program of Environment, Technology, and Society (ETS) should be considered an integral part of the graduate curriculum; students may choose to structure their programs around such collaborative research endeavors. (See appropriate information elsewhere in this catalogue on CENTED, ETS, and ID.)

The first year of graduate study is planned to broaden the student's knowledge of the field of geography and the practices within it, and to help students define their interests within the context of the Clark program. During the first year of study, students normally take two graduate core seminars: *Development of Western Geographic Thought* (368) and *Explanation in Geography* (318). The remainder of the student's coursework is selected in consultation with the graduate advisor. Toward the end of the first year, a formal review of the student's progress and discussion of future plans are conducted by a three-member, first-year advisory committee. The student should declare a formal advisor during the meeting of this committee. In order to maintain satisfactory progress in the graduate program, students must obtain a minimum of five course credits by August 1 of the entry year.

The second year of graduate study emphasizes in-depth work in the student's field of interest, formulation of possible doctoral exam topics, problem formulation and research, and research skills. Coursework during this year should include seminars, directed readings, and directed research. By the end of the second year of study students are encouraged to (1) fulfill the skills requirement, (2) be preparing for the doctoral exam, and (3) begin dissertation proposal formulation. At the end of this year, students have a second-year review meeting with members of the student's Ph.D. examination committee; this meeting includes an assessment of student progress and advising for the next year of study.

By the third year of study, students should be well on their way to completing most of the requirements of the graduate program. The aim is to advance to Ph.D. candidacy in order to proceed with doctoral research and writing. Doctoral examinations must be taken by the end of the third year of study. These exams focus on the student's depth and breadth of knowledge in substantive subfields of geography and on knowledge of methodological and philosophical concerns relevant to the student's interests.

Each student also is required to demonstrate proficiency in two of the following areas: multivariate statistics (satisfied by taking Geog. 247), research design/research methods (satisfied by taking Geog. 314 or Geog. 310),

computer programming (satisfied by taking Geog. 298, or Computer Science 101), geographic information systems (satisfied by taking Geog. 297), foreign language (satisfied by completing a second-year, second-semester college-level course), cultural-historical studies (satisfied by taking Eng. 237, Hist. 292, or other appropriate course). Students can demonstrate proficiency in a skill by receiving a passing grade in the indicated course or by taking an examination. Students must fulfill the skills requirement by the end of the sixth semester of study or before the defense of the dissertation proposal, whichever comes first.

The doctoral exam assesses the competency of graduate students in one major and two minor fields. Competency is defined as an understanding of the substantive content and range of theoretical approaches within each subfield. Students must be able to critique alternative research traditions and defend the theoretical frameworks they adopt. For the exam in the *major* field the student is expected to have an in-depth knowledge of the entire field. In the field selected for the *first minor*, the student is expected to have mastered a survey of the field. The topic of the *second minor* is a more narrowly defined field, and the student will be expected to have an in-depth knowledge of the second minor. The doctoral examination committee is composed of a minimum of four faculty, at least three of whom are regular appointments of the School.

Within two semesters of the completion of the doctoral exams, the student submits a proposal for doctoral research for approval by the doctoral proposal committee. A complete draft of the thesis is defended at a working session of the dissertation committee. On approval by the dissertation committee, the final draft of the dissertation is placed on display for two weeks. At the suggestion of the dissertation committee and the director, and with the approval of the graduate student, a public presentation and dissertation signing ceremony may be scheduled.

Residence and Credit Requirements

A three-year residence and sixteen course credits beyond the B.A. degree are required for the Ph.D. program. Students entering with an M.A. in a field other than geography are expected to complete essentially the three-year residence program and at least eight course credits as determined by the School. Students entering with an M.A. in geography from another institution must complete two and one-half years of residency and eight course credits. Students must maintain satisfactory progress throughout their graduate program.

The guidelines for the Ph.D. in geography outlined here represent an overview of the program requirements. For more specific information on our graduate program, please call or write: Admissions Secretary, Graduate School of Geography, (508) 793-7337 or (508) 793-7336.

DISTINCTIVE FEATURES AND SPECIALIZATION

The main offices of the Graduate School of Geography are housed in the University's Jefferson Academic Center, complete with cartographic, earth science, and geographic information systems (GIS) laboratories. In the adjacent Geography Building, offices and work space for graduate students are provided, in addition to the Map Library, the J.K. Wright Reading Room, and the Libbey Seminar Room, which contains the personal library of Dr. Wright, regularly updated publications in the field of geography, and subscriptions to geography journals. Graduate students have their own lounge space and personal computing room.

Founded in 1921 as part of the Graduate School of Geography, the Guy H. Burnham Map and Aerial Photograph Library is an active cartographic information center. The collection, global in scope, contains 178,000 maps and

7,300 aerial photographs, as well as atlases, journals, globes, map reference materials, and tourist information. Because of depository agreements with the United States Government Printing Office, the Map Library houses a full array of maps published by the federal government. The Library is located on the lower level of the Geography Building.

The Clark University Cartographic Service and cartography classrooms are located on the lower level of the Jefferson Academic Center. This area provides students with specialized workspace and a variety of up-to-date cartographic equipment, including a large, well-equipped graphic production darkroom; a stereofacet plotter; three digitizers, including a Tektronix large-format digitizer; two flatbed plotters; color and laser printers; and several microcomputers with graphics capabilities. Geographic software includes raster- and vector-based geographic information systems, as well as a PC-based projection package. The Cartographic Service also maintains desktop mapping capabilities.

PUBLICATIONS

A professional journal, *Economic Geography*, is edited by a faculty member. Founded at Clark University in 1925, it is the only journal published in English that specializes in economic geography. The journal has a worldwide distribution and the highest "impact factor" rating among geography journals.

The graduate students maintain the Clark University Geographical Society (CUGS). The *Monadnock Newsletter* keeps School of Geography alumni in touch with each other and with news and scholarly activities of the School.

The Graduate School of Geography also publishes IDRISI, a geographic information software system developed by Ronald Eastman. The system was developed at Clark, has been adopted for use by the United Nations, and has been distributed to over a thousand organizations worldwide.

In addition, the School produces the *Wallace W. Atwood Lecture Series*, which features the lectures of distinguished scholars from geography and related fields of study.

The professional work of some members of the department is published in the CENTED publication series, which includes an extensive reprint series.

GEOGRAPHY COURSE LISTING BY AREA OF SPECIALIZATION

NONSTREAM

- 011 *Survey of Geography*
- 110 *Computer and Quantitative Methods in Geography: Introduction*
- 141 *Research Methods in Geography*
- 174 *Themes in Classical Geographic Thought*
- 247 *Computer and Quantitative Methods in Geography: Intermediate*
- 249 *Spatial Analysis*
- 285 *Capstone Seminar: Themes in Geography*
- 314 *Research Design, Research Methods*
- 318 *Explanation in Geography*
- 368 *Colloquium: The Development of Western Geographic Thought*

CULTURAL/HUMANISTIC

- 017 *Introduction to Cultural Geography*
- 035 *American Land, American Mind*
- 105 *The Keeping of Animals: Patterns of Use and Abuse*
- 108 *World Population*
- 117 *Culture Landscape*
- 132 *Before and After Columbus: Ancient Middle America and the Impact of the Conquest*

137	<i>Time and Space in Old and New England</i>
139	<i>Country and Culture</i>
142	<i>Cities and Culture: The American City</i>
177	<i>Cultural Ecology in Arid Lands</i>
196	<i>Culture and Sport</i>
217	<i>History of Cartography</i>
234	<i>Health and Disease in the American Habitat</i>
240	<i>The End of America: Los Angeles</i>
242	<i>Cities and Culture: The European City</i>
253	<i>New England Landscape</i>
259	<i>Images, Symbol, and Myth in the American West</i>
276	<i>Cultural Ecology in the Humid Tropics</i>
279	<i>American Landscape</i>
284	<i>Landscapes of the Middle East</i>
291	<i>Jonas and Susan Clark Collection</i>
295	<i>Agriculture in Third World Economies</i>
312	<i>Seminar: Agriculture and Development</i>
330	<i>Seminar in Cultural Ecology</i>
342	<i>Seminar in Human Dimensions of Global Change: Driving Forces</i>
370	<i>Animal Agriculture</i>

PHYSICAL GEOGRAPHY OF HUMAN SYSTEMS

014	<i>Introduction to Physical Geography</i>
025	<i>Earth Science and Development</i>
112	<i>Biogeography</i>
114	<i>Intermediate Geomorphology</i>
115	<i>Hydrology</i>
118	<i>Environmental Earth Science</i>
201	<i>Island Biogeography</i>
204	<i>Watershed Ecology</i>
211	<i>Geomorphology of Humid Tropics</i>
213	<i>Forest Hydrology Field Methods</i>
215	<i>Fluvial Processes in Geomorphology</i>
216	<i>The Physical Environment of Arid Lands</i>
218	<i>Seminar in Physical Environment and Development</i>
220	<i>Agriculture and Grazing: A Physical Perspective</i>
280	<i>Urban Ecology: Cities as Ecosystems</i>
281	<i>Tropical Ecology</i>
300	<i>Advanced Topics in Physical Geography</i>
304	<i>Seminar on Watershed Ecology</i>
362	<i>Seminar in Geomorphology</i>

URBAN/SOCIAL AND ECONOMIC/PLANNING

015	<i>Introduction to Economic Geography</i>
018	<i>Introduction to Urban Geography</i>
124	<i>Economy and Environment</i>
170	<i>Urban Social Geography</i>
175	<i>Urbanization in the Third World</i>
244	<i>Gender, Work and Space</i>
254	<i>Urban Transportation: Problems and Prospects</i>
262	<i>Urban Economic Geography</i>
273	<i>Seminar in Urban Geography</i>
280	<i>Urban Ecology: Cities as Ecosystems</i>
327	<i>Geography and Social Theory</i>
373	<i>Seminar in Urban Geography</i>

ENVIRONMENTAL/RESOURCE MANAGEMENT

- 019 *Introduction to Environmental Geography: The Global Environment*
037 *Gender, Space, and Environment*
101 *Introductory Case Studies*
124 *Economy and Environment*
157 *Technology and Social Change*
176 *Environment 199_*
179 *People, Ecology, and Global Village*
210 *Environment and Society*
213 *Forest Hydrology Field Methods*
226 *Seminar: Environmental Hazards—Theory, Models, and Applications*
228 *Management of Arid Lands*
236 *Seminar: International and Comparative Resource Policies*
246 *Technology Assessment*
252 *Locating Hazardous Facilities*
255 *Risk Perception*
257 *Theory of Multi-Objective Resource Evaluation*
266 *Quantitative Methods of Risk Analysis*
269 *Environment and Development in Africa*
271 *Groundwater Hydrology and Management*
277 *Gender, Resources, and Development*
281 *Tropical Ecology*
310 *Research Seminar in Development Geography*
342 *Seminar in Human Dimensions of Global Change: Driving Forces*
343 *Seminar in Human Dimensions of Global Change: Responses and Management*
345 *Research Seminar in Environmental Perception*
350 *Nature, Society, and Technology*
351 *Seminar in Resource Geography: Theory and Method*
355 *Social Forestry and Development*

CARTOGRAPHY

- 181 *Introduction to Cartography*
185 *Images of the Earth*
189 *Remote Sensing of the Environment*
217 *History of Cartography*
274 *Seminar in Cartographic Design*
292 *Cartographic Design and Production*
294 *Problems in Cartography*
296 *Remote Sensing Project Work*
297 *Geographic Information Systems*
298 *Introduction to Automated Cartography*

REGIONAL/INTERNATIONAL DEVELOPMENT/POLITICAL ECONOMY

- 015 *Introduction to Economic Geography*
027 *Geography of the Third World*
037 *Gender, Space, and Environment*
125 *Development Problems*
127 *Political Economy of Underdevelopment*
129 *Political Economy of Industrial Countries*
130 *Introduction to Latin America*
146 *Political Geography*
179 *People, Ecology, and Global Village*
182 *Politics, People, and Pollution*

228	<i>Management of Arid Lands</i>
232	<i>Land and Development in Latin America</i>
258	<i>South Africa and Development in Southern Africa</i>
265	<i>Money, Banking, and Public Finance in Developing Countries</i>
268	<i>Anthrogeography</i>
272	<i>International Division of Labor</i>
277	<i>Gender, Resources, and Development</i>
289	<i>Problems in Political Economy of Development</i>
293	<i>Overcoming World Hunger—Agricultural Research and International Development</i>
310	<i>Research Seminar in Development Geography</i>
336	<i>Household Economic Behavior and the Geography of Development</i>
338	<i>Seminar in Industrial Geography</i>
357	<i>Seminar: Approaches to Regional Development Planning</i>
360	<i>Development Theories and Philosophies of Change</i>
365	<i>Seminar in Social and Economic Geography</i>
369	<i>Seminar in Environment and Development</i>
395	<i>Economic Development and Policy Analysis</i>

COURSES

011 SURVEY OF GEOGRAPHY/Lecture, Discussion

A survey of major concepts in modern geography. Emphasis is placed on the various approaches to geographic research currently conducted in the Graduate School of Geography. Physical (climatology, soils, biogeography, and landform studies), cultural, historical, economic, urban, and social themes are developed. Designed primarily for freshmen and sophomores. A required course for geography majors.

Mr. Johnson, Mr. Turner/Offered every year

014 INTRODUCTION TO PHYSICAL GEOGRAPHY/Lecture, Laboratory

A basic inquiry into the principles and components of landforms and climates. It provides critical background necessary for evaluating environmental problems. The role of human activities on physical processes is included.

Staff/Offered every year

015 INTRODUCTION TO ECONOMIC GEOGRAPHY/Lecture

Theories about the geography of the production of human existence out of nature are presented. The course emphasizes contemporary economic, social, and environmental problems. These include overpopulation, environmental crises, world food problems, uneven economic development, the spatial movement of industry and jobs, and regional decline and unemployment. The course concludes by discussing the disappearance of unique regional economies and cultures and the emergence of a world capitalist economy, culture, and consciousness.

Mr. Karaska, Staff/Offered every year

017 INTRODUCTION TO CULTURAL GEOGRAPHY/Lecture

An ecological and historical approach to the study of cultures and cultural change in a spatial context. A series of broad themes and problems are illustrated by case studies set mainly in North America. Major themes considered are adaptation to the "natural" environment; culture in prehistory; migration and the creation of cultural areas; the world views of primitive, traditional, and industrial culture; cultural landscape; and the cultural geography of the United States. One discussion section each week in addition to lectures.

Mr. Johnson/Offered every year

018 INTRODUCTION TO URBAN GEOGRAPHY/Lecture, Discussion

Cities are for some a gateway of opportunity—to jobs or to new ways of seeing and living. For others, cities are a prison of poverty and alienation. What are the forces that shape urban life and the development of cities, from the mill towns of New England to Chicago in the 1920s, as well as the dynamic metropolises of Los Angeles and Miami in the contemporary period? Geography 018 confronts these questions and provides a widely ranging introduction to urban geography. In addition to regular lectures, the course also involves workshops and expeditions into the city.

Mr. Angel/Offered every year

019 INTRODUCTION TO ENVIRONMENTAL GEOGRAPHY: THE GLOBAL ENVIRONMENT/Lecture, Discussion

Provides an overview of the physical and humanistic components of major global environmental problems—world food supplies, tropical deforestation, acid rain, ozone layer destruction, and land degradation. Students are introduced to the major biogeochemical cycles, interactions of the atmosphere and hydrosphere, and measurable trends in global ecology. Poverty, world health, population trends, and the roles of science and technology are examined as factors in, and products of, the global environment.

Ms. Emel/Offered every year

025 EARTH SCIENCE AND DEVELOPMENT/Lecture

The physical constraints on the development of agricultural resources, provision of water supplies, and urbanization are evaluated. The focus is on characteristics and issues central to the management of environmental resources, with emphasis on the range of physical environments found in Africa, Central America, and South America.

Mr. Lewis/Offered periodically

027 GEOGRAPHY OF THE THIRD WORLD/Lecture, Discussion

Introduces students to the geo-history of the Third World through a "mode of production" analysis of the relations between Europeans and the people of Latin America, Africa, and Asia. Each year a particular Third World problem is identified and analyzed—environment, hunger, economic development, and cultural imperialism are examples. The course is suited to students with little background or knowledge of the Third World, but with a thirst to understand the conditions of existence of the majority of the world's people and a commitment to change those conditions.

Mr. Peet/Offered every year

035 AMERICAN LAND, AMERICAN MIND/Lecture

This course deals with the images, myths, and traditions of the American land and its peoples, e.g., ignoble savage, pristine wilderness, forest primeval, garden, frontier, great American desert, New England village on the green, dust bowl, smoky bear, pioneer, cowboy, and Los Angeles as both paradise on earth and anti-city. Comparisons will be made between Americans' popular traditions of the land and the accepted reality described by scientists. For each tradition an attempt will be made to show how and when (1) the images formed and (2) the myths developed. The transformation of myth to tradition is commonly prefaced by erasure of collective memory and furthered when the literate elite present the myth as "fact" to the intelligentsia. Ongoing myth creation and the invention of tradition will be highlighted in the last third of the class. In 1991 a related conference of scholars will parallel the course.

Mr. Bowden/Offered every year

037 GENDER, SPACE, AND ENVIRONMENT/Lecture, Discussion

Students will explore how gender is reflected in the landscape, in our settlement and land use patterns, in environmental history, and in our present ecological science and practice from the global to the local level. The class will combine lectures, readings, discussions, films, and local field trips. We will review feminist and other alternative explanations of the gendered nature of knowledge, access, use and control of space and resources in a variety of environments—past, present, and possible.

Ms. Rocheleau/Offered every year

101 INTRODUCTORY CASE STUDIES/Lecture, Discussion

Introduces the student to technology assessment and environmental policy through illustrative cases covering issues such as population and food, land and water resources, energy systems, pollution control, technology assessment, waste management, and arms control. Both writing and quantitative methods are emphasized so that students will become aware of the multidisciplinary approach needed in analysis of the cases. This course can be taken for *verbal expression* credit.

Staff/Offered every semester

105 THE KEEPING OF ANIMALS: PATTERNS OF USE AND ABUSE/Seminar

Animals play a prominent role in human life. Their meat, milk, hides, and hair shelter and sustain us. Pets provide companionship and solace. Animal power provides traction, transport, and recreation. Pest and predators compete with humans for food, while diseases harmful to humankind lurk unseen in animal reservoirs. Images of goodness and evil, nobility and perfidy reflect the ambivalent attitudes and cultural prejudices that govern human responses to animals. This course explores the wide variety of cultural, historical, and ecological interactions that exist between people and animals, whether wild or domesticated, aquatic, terrestrial, or avian. It balances utilitarian and ethical perspectives on current patterns of use and abuse in the keeping of animals. This course is restricted to freshmen.

Mr. Johnson/Offered every other year

108 WORLD POPULATION/Lecture

Is the population of the world growing too fast? Will overpopulation lead to doomsday? To address these questions requires an understanding of the nature of population growth and sociocultural responses to it. This course develops an understanding of this relationship through a mix of demography and population geography. World patterns of population distribution, history, and dynamics are explored, and the future of population problems is addressed.

Mr. Turner, Mr. Johnson/Offered periodically

110 COMPUTER AND QUANTITATIVE METHODS IN GEOGRAPHY: INTRODUCTION/Lecture

An introduction to geographic analysis and the role of the computer in assisting this process. The course considers data sampling and descriptive and inferential statistical techniques for analyzing geographic data. Topics include graphic techniques, tests of hypotheses, simple regression, and the analysis of variance. As an integral part of the course, students learn to use computer programs for statistical analysis, data graphing, and computer-assisted cartography. Although no prior exposure to computers or statistics is assumed, the course is for students of all levels and one for which graduate students may receive credit.

Mr. Eastman/Offered every year

112 BIOGEOGRAPHY/Lecture

Past and present geographical distributions of plant and animal species are considered in relation to biological evolution, species interactions, dispersal strategies, continental drift, climatic change, and human activity. Island biogeography and the biogeography of tropical vascular plants are emphasized. Mr. Herwitz/Offered every year

114 INTERMEDIATE GEOMORPHOLOGY/Lecture

The history of plate tectonics is explored in relation to the uplift of mountains, tectonics, and volcanism. The gradual wearing down of the earth's surface by hydrological processes is emphasized in the latter part of the course. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Mr. Lewis/Offered every year

115 HYDROLOGY/Lecture

Provides an overview of the hydrologic cycle and its major components including precipitation, evapotranspiration, soil moisture, surface water runoff, and groundwater flow. The course focuses upon the role of water as a unifying concept in environmental science. Examines human modification of natural hydrologic regimes. Prerequisite: Geography 014 preferred but not required.

Ms. Emel/Offered every other year

117 CULTURE LANDSCAPE/Lecture

Examines the processes and values that shape the human environment. The fundamental premise is that every culture leaves a record of its presence in its material landscape, and that this landscape record can be understood and "read" by the informed observer. Because landscape is a product of culture as well as of nature, it can best be understood using both an insider's (native's) and outsider's perspective. Insights are gained by comparing familiar landscapes with those produced by other cultures. For this reason, the course studies selected Middle Eastern, Indian, Chinese, and European landscapes in addition to the regional landscapes of Northern America. Artistic, literary, historical, and ecological perspectives are brought to bear on the interpretation of ordinary and elite landscapes of fact and symbol.

Mr. Johnson/Offered every other year

118 ENVIRONMENTAL EARTH SCIENCE/Lecture

Examination of the basic concepts and processes within the earth sciences, relative to the evaluation of risks and decisions on future policies of land use and resource utilization. The emphasis is on aspects of the environment of particular interest to geographers, geologists, and planners. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Staff/Offered every other year

124 ECONOMY AND ENVIRONMENT/Lecture, Discussion

This course addresses the historic intersection of industrialization, urbanization, and ecology. We examine cases of economic, environmental, and political conflict over the past three hundred years in order to gain historic depth on contemporary issues. London air pollution, New York City water supplies, mechanized fishing in the Pacific, European coal mining, and American forestry product industries will be among the cases we consider. The course objective is to help students envision the relationships between the environment and work, technology, consumption, finance, and other economic activities. Legal and political histories pertinent to these relations are also addressed.

Ms. Emel/Offered every other year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Introduces students to the major issues and debates in the field of international development, by addressing a variety of concerns including colonialism, development and underdevelopment, the relationship between arms expenditures and development, growth and equity issues, trade, aid, the impact of development processes on women, North-South relations, emergence of class, and political ideologies. The class focuses on specific problems of food, population, and resources. Case materials are drawn from a number of countries including India, China, Kenya, Tanzania, Mexico, Brazil, and Bangladesh.

Ms. Thomas-Slayter/Offered every year

127 POLITICAL ECONOMY OF UNDERDEVELOPMENT/Lecture

Do conventional explanations of underdevelopment strike you as false and unconvincing? A powerful and refreshing alternative perspective exists in Marxist and neo-Marxist theories of social change. This course reviews the main currents within this rich stream including theories of dependency, imperialism, accumulation world systems, unequal exchange, and mode of production. Marxist concepts are used to examine the international role of capital, multinational corporations, and regional decline. Finally, the course presents alternative models of socialist development.

Mr. Peet/Offered every year

129 POLITICAL ECONOMY OF INDUSTRIAL COUNTRIES/Lecture

The advanced capitalist countries are undergoing rapid economic change including an industrial devolution as remarkable as the industrial revolution of the nineteenth century. This course examines the effects of economic change in the United States, Western Europe, Japan, East Asia, and Latin America in the context of theories of global development. Economic and social problems, such as the destruction of employment, unemployment, and regional and community collapse, are emphasized. The course also examines the contradictions of regional economic advance in high technology regions, such as New England, Silicon Valley, and the technopolis of Japan. Theories and practices of regional development policy bring the course to a pragmatic conclusion.

Mr. Peet/Offered every other year

130 INTRODUCTION TO LATIN AMERICA/Lecture

This course develops an understanding of contemporary Latin America through the consideration of particular social and economic conditions of the region. The role of the Spanish conquest, the Catholic church, and associated political theories are evaluated. Special attention is given to economic development ideas of the UN Economic Commission for Latin America, such as Import Substitution Industrialization, and how they have affected the region. The course also reviews the impact of emerging concerns with the effect of the "informal economy" on Latin American national development.

Mr. Jones/Offered every year

132 BEFORE AND AFTER COLUMBUS: ANCIENT MIDDLE AMERICA AND THE IMPACT OF THE CONQUEST/Lecture

For at least two and one-half millennia before Columbus reached the Americas, Middle America witnessed the rise and fall of several advanced cultures. These cultures adapted to different environmental zones through creative land use practices that sustained very large populations. The impact of Cortez's penetration of Mexico, however, was devastating. Empires were destroyed, massive

depopulation ensued, land use practices were radically altered, and a new political and economic order was instituted. This course explores the pre- and immediate post-Columbus circumstances in Middle America from a cultural and human ecological perspective.

Mr. Turner/Offered periodically

137 TIME AND SPACE IN OLD AND NEW ENGLAND/Lecture

Uses cases from old and New England to demonstrate the skills, methods, and sources of cultural, historical, and humanistic geography in the towns and fields of New England and in texts of both Englands. Dating techniques; prehistoric chronology; estimating past populations; toponymy, linguistic, and lexical evidence; archaeology and the ground itself; archival and literary evidence; aerial photography; vernacular and high style architecture. Skills course for geography majors in cultural/humanistic stream.

Mr. Bowden, Staff/Offered every other year

139 COUNTRY AND CULTURE/Lecture

The landscape can be read! Be it a vast tropical rainforest with an occasional clearing or an intensively cultivated river valley in New England, the rural landscape is the product of interaction between place (environment) and people (culture). This course traces the evolution of rural landscapes through time from early hunter-gatherers to modern suburban encroachment on rural areas. Emphasis is placed on ecological principles that help explain the technocultural modification of rural places.

Mr. Johnson/Offered every other year

141 RESEARCH METHODS IN GEOGRAPHY/Lecture, Discussion

Focuses upon the ways in which social science research is conducted and emphasizes primarily applied research in a problem-solving context. Involves the students in the variety of problems, methodological strategies, and analytical techniques characteristic of current geographical research. Topics include defining a research problem, measurement, sampling, questionnaire design, and modeling.

Ms. Hanson, Mr. Angel/Offered every year

142 CITIES AND CULTURE: THE AMERICAN CITY/Lecture and Field Trip

The course focuses on the development of distinct subcultures in America and on the cultural capitals of the country. Emphasis is on the expression of culture in space and on the agents of cultural change and stability. Detailed studies of cities that have at one time been cultural capitals in America—Boston, Philadelphia, New York City, Chicago, San Francisco, and Los Angeles—consider the origins and effects of this role on each city's structure. The same process is studied in distinctive regional cultural capitals—Charlestown, Newport, Salt Lake City, Santa Fe, and New Orleans.

Mr. Bowden/Offered every year

146 POLITICAL GEOGRAPHY/ Lecture, Discussion

Analysis of the interplay between geography and politics, treating such topics as the territorial organization of political systems, decentralization, districting, spatial conflict, electoral geography, delivery of public services, and environmental politics.

Staff/Offered periodically

157 TECHNOLOGY AND SOCIAL CHANGE/Lecture, Discussion

This course focuses on the interaction between technology and society. Among

the topics considered are: the nature of technology and its relationship to society, historical and contemporary case studies of the impact of technology, the nature of technological failures, and forecasts of how technology may change society by the year 2000.

Mr. Mitchell/Offered every year

170 URBAN SOCIAL GEOGRAPHY/Lecture, Discussion

Focuses on the definition and importance of social areas within cities, patterns and processes of residential segregation, the role of the neighborhood in urban life, and the functioning of the urban housing market. Also examines urban planning approaches to solving housing and neighborhood problems.

Ms. Hanson/Offered every year

174 THEMES IN CLASSICAL GEOGRAPHIC THOUGHT/Lecture, Discussion

Ecology, ecumene, environment, and exploration: these four themes are the intellectual legacy to modern geography of the ancient Greeks and other Mediterranean peoples. Such geographically related topics as the voyage of Odysseus, the Atlantis myth, the concept of sacred space, the measurement of the earth, the relations of nature and culture, the design of the environment, the idea of the habitable world, the relations of climate and health, and the exploration of the "barbarian" world are examined both in the accounts of ancient Greek and Roman writers (in translation) and in later scholarly elaborations. Open to all those interested in the continuing significance of the thought of the ancient Mediterranean world.

Mr. Koelsch/Offered every year

175 URBANIZATION IN THE THIRD WORLD/Lecture, Discussion

This course examines contemporary processes of urbanization in the Third World. Issues addressed include primate cities, the links between urban and rural economies, and the internal structure of cities. Particular attention is paid to problems of Third World urbanization and emerging policy responses. Prerequisite: Geography 018 or permission.

Mr. Karaska/Offered every other year

176 ENVIRONMENT 199_/Lecture, Discussion

An assessment of major environmental issues, both national and global in nature, confronting human society in the current year. Particular attention to problems requiring governmental action: rapid population growth, hazardous chemical wastes, long-term planning, and world water shortages. The interplay between environmental change and public policy is stressed. Intended for those desiring introductory or general knowledge.

Mr. Kasperson/Offered every year

177 CULTURAL ECOLOGY IN ARID LANDS/Lecture, Discussion

Drylands are risky and often inhospitable places in which to live. Yet people choose to occupy such places and to wrest a living from sparse and scattered resources. Those farmers, herders, hunters, and urban dwellers who are successful have coping strategies for dealing with drought, desertification, and environmental change. Comparison of these strategies in both developing and industrialized societies identifies obstacles to and opportunities for successful management of drylands in support of a growing population.

Mr. Johnson/Offered periodically

179 PEOPLE, ECOLOGY, AND GLOBAL VILLAGE/Lecture, Discussion

Integrates issues of ecology and political economy from local to global scale case

studies, starting from a close-up view of people in environmental "hot spots" and following their linkages into the world economy and planetary ecosystems. Students explore the connections between international, environmental, and economic policy and the everyday realities and possible ecological futures of people in the Amazon rainforest, Himalayan foothills, and East African savannas.

Ms. Rocheleau/Offered every year

181 INTRODUCTION TO CARTOGRAPHY/Lecture, Laboratory

An introduction to the fundamental principles underlying the graphic representation and geographic description of earth phenomena. The examination ranges from concepts of space and spatial representation to descriptive techniques and the perceptual basis for graphic communication. The laboratory exercises allow a "hands on" exploration of both manual and automated map production and analysis techniques.

Mr. Steward, Mr. Eastman/Offered every year

182 POLITICS, PEOPLE, AND POLLUTION/Lecture, Discussion

Environmental problems and issues arise from economic development processes in both industrialized and developing countries. What are the facts and what are the myths in a consideration of environment and development? How do we establish policies for dealing with these problems? What are the processes by which governments make decisions addressing complex environmental/development issues here and in distant parts of the world? This course offers students an opportunity to examine the relations between environment and development in the context of developing and industrialized societies.

Ms. Thomas-Slayter, Mr. Schwarz/Offered periodically

185 IMAGES OF THE EARTH/Seminar

This course, open to first-year students only, provides an introduction to the images and graphic forms derived from remote sensing and cartography. It brings together the concerns of map-making, aerial photography, satellite imagery, surveying, and computer science to give us new ways of representing, analyzing, and understanding our planetary environment.

Mr. Steward/Offered every year

189 REMOTE SENSING OF THE ENVIRONMENT/Lecture, Laboratory

Offers a broad introduction to one of the most powerful tools now being developed for surveying geographical phenomena. Covers the use of remotely sensed data, such as air photos and a variety of satellite imagery, to provide answers to many of the problems related to our physical and human environment.

Mr. Steward/Offered every year

196 CULTURE AND SPORT/Lecture, Discussion

Readings in humanities "texts," meetings focused on film, and frameworks from the social sciences are used to explore a number of American games/sports (and their social English progenitors) as expressions of American history, character, values, environment, self-image, mentality, economic ethos, and institutions. Themes are: (1) the relation between the character and structure of the games and their success among different groups of Americans; (2) the timing of adoption of the games; (3) explanations for the transformation of the games from British and early forms; (4) deviation of professional and amateur variants; and (5) scale and nature of sport as a business. Athletics, boxing, cricket, baseball, soccer, rugby, football, basketball, hockey, and tennis, among

others, are considered. Classes meet weekly. The class period is extended on alternate weeks for special events (e.g., films).
Mr. Bowden/Offered every other year

201 ISLAND BIOGEOGRAPHY/Lecture, Discussion

This field-oriented course on the biology and geology of Bermuda consists of three parts: (1) weekly meetings during the first half of the spring semester involving lectures, readings, and discussions; (2) a one-week field and research experience in Bermuda during spring vacation; and (3) presentation of research results during the second half of the spring semester.

Mr. Herwitz, Mr. Livdahl/Offered every year

204 WATERSHED ECOLOGY/Seminar

Advanced seminar examining current scientific literature on the biogeochemistry of contrasting forested ecosystems. Topics covered include the inputs, outputs, and internal transfers of energy and nutrients in northern temperate hardwood forests, tropical rainforests, cloud forests, eucalypt woodlands, and baldcypress swamps. The Hubbard Brook ecosystem study is considered in detail with a field trip to the Hubbard Brook experimental watershed in the White Mountains.

Mr. Herwitz/Offered every other year

210 ENVIRONMENT AND SOCIETY/Lecture, Discussion

A central theme of this course is to analyze the relationship between human societies, especially those that are industrialized, and the natural environment. Among the topics to be considered are the impact of industrialization on nature, the population-resource debate, the rise of modern environmental concern and political action, pesticides, and energy policy issues.

Mr. Mitchell/Offered every year

211 GEOMORPHOLOGY OF HUMID TROPICS/Lecture, Discussion

The humid tropics—home of the rainforest, dry forest, and savanna—are areas of special interest to physical geographers. Deep weathering of rocks, rapid soil erosion when the forest or grasses are removed, great rivers in the tropics, and the devastating impact of human intervention are among the topics explored. Prerequisite: Geography 114, Geology 114, or permission of instructor.

Mr. Lewis/Offered every other year

213 FOREST HYDROLOGY FIELD METHODS/Research, Discussion

Students have a unique opportunity to conduct field research and gain experience acquiring hydrological data on evapotranspirational losses from local pine plantations and broadleaved deciduous forests. Field and laboratory research leads to the preparation of a formal article that conforms to the specifications of a scientific journal. The objective of the research is to evaluate how different vegetation types affect water resources. Prerequisite: permission of instructor.

Mr. Herwitz/Offered every other year

215 FLUVIAL PROCESSES IN GEOMORPHOLOGY/Lecture, Discussion

Focuses on the relations between hydrology and geomorphology. The basic properties of hydraulic geometry, erosion, and deposition are explored. Prerequisite: Geography 114, Geology 114, or permission of instructor.

Mr. Lewis, Staff/Offered periodically

216 THE PHYSICAL ENVIRONMENT OF ARID LANDS/Lecture, Discussion

Presents an analysis of the processes acting on landscapes and the atmospheric

environment of arid areas. The focus is on climate and related geomorphic processes. The course emphasizes the arid Southwest of the United States and the African Sahel. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Mr. Lewis/Offered every other year

217 HISTORY OF CARTOGRAPHY/Lecture

A basic survey of the history of mapping until about 1900. Topics include the methodological basis of investigations into the subject; maps of primitive peoples; the classical, medieval, and Renaissance periods; the rise of national surveys; the relationship of mapping to exploration; and the cartography of North America.

Mr. Steward/Offered every year

218 SEMINAR IN PHYSICAL ENVIRONMENT AND DEVELOPMENT/ Seminar

The world is changing more rapidly than at any time in history. This course reviews the patterns of change in the Third World, examines the role of environment and resource management in development, and allows students to develop their own in-depth case studies. Permission of instructor required.

Mr. Lewis/Offered every other year

220 AGRICULTURE AND GRAZING: A PHYSICAL PERSPECTIVE/Lecture, Discussion

Agricultural and grazing practices with their relations to the environment are examined. Various physical, cultural, and economic situations in both the developed and the developing world are the focus for the inquiry. Permission of instructor required.

Mr. Lewis/Offered periodically

226 SEMINAR: ENVIRONMENTAL HAZARDS—THEORY, MODELS AND APPLICATIONS/Lecture, Discussion

An introduction for advanced students to the theory and methods of risk assessment and the management of environmental hazards. Case study material is drawn from current research including natural hazards, hazards of consumer products, energy production, toxic chemicals, and transportation.

Mr. Kasperson/Offered every year

228 MANAGEMENT OF ARID LANDS/Lecture, Seminar

The drylands of the world present special development problems. Peculiarly prone to degradation, these regions face the difficult task of providing support to a rapidly growing population. Viewed in a historical perspective, the demography, behavioral characteristics, social and livelihood systems, and physical constraints of dryland ecosystems are analyzed. Special attention is paid to evaluating the management strategies currently employed in their use, identifying the obstacles constraining their growth, and assessing their future development potential.

Mr. Johnson/Offered every other year

232 LAND AND DEVELOPMENT IN LATIN AMERICA/Lecture, Discussion

The appropriation and inclusion of Latin American lands in the larger world economy have been and object of policy and debate since the Spanish conquest. Contemporary elements of this process are reviewed, beginning with efforts at agrarian reform and their social, political, and economic significance. The incorporation of peripheral lands of the American tropics are investigated for

their impacts on native populations, and finally on the global environment. Special emphasis is given to the policy context of land and development, as well as efforts to change patterns of land appropriation and inclusion for social and environmental ends.

Mr. Jones/Offered every year

234 HEALTH AND DISEASE IN THE AMERICAN HABITAT/Discussion

Based on readings drawn from medical and historical geography, biological science, and the history of American medicine and public health, this course takes a synoptic view of concepts and practices concerning health and disease as a form of environmental cognition and management. Discussion topics range from the changing disease environments of early New World migrants and inhabitants to present-day concerns over environmental health hazards. Emphasis is on societal interactions with urban-industrial disease environments in the last hundred years and the intellectual consequences of these interactions.

Mr. Koelsch/Offered every other year

236 SEMINAR: INTERNATIONAL AND COMPARATIVE RESOURCE POLICIES/Lecture, Seminar

Deals with international and comparative law/policy of water resources, fisheries, land, oceans and seas, wildlife, air, and nuclear power. Within the context of each of these topical areas, the course objectives are to define the "resource problem(s);" analyze existing institutions (i.e., property rights, management systems, and allocation regimes) and their responses to the problems, and consider conceptual guidelines for improving institutional arrangements and individual actions.

Ms. Emel/Offered every other year

240 THE END OF AMERICA: LOS ANGELES/Lecture, Discussion

The modern city reflects the values and forces that have shaped Western culture in its westward course. In the last century the history of Los Angeles—the western end of American space—embodies better than that of any other city the polemic between traditional and technological notions of the modern city. It provides a unique, possibly the ultimate, model for the examination of the American cultural spirit, perhaps even of the end of that spirit. This course is designed to explore the changing notions of the city and the American attitude toward the culture of cities through close examination of the history, geography, literature, and film associated with Los Angeles.

Mr. Bowden/Offered every other year

242 CITIES AND CULTURE: THE EUROPEAN CITY/Lecture

Examines the city as a center of cultural stability and cultural change as reflected in urban form. Particular focus upon the notion of creativity in the city. Case studies include London, Edinburgh, Paris, Vienna, and Manchester.

Mr. Bowden/Offered every other year

244 GENDER, WORK, AND SPACE/Seminar

How do gender, race, class, and ethnicity propel certain types of people into certain types of work? What role do location and space play in shaping and sustaining such divisions within the labor force? How have people explained the fact that women, youths, and minorities hold jobs in the paid work force that are distinctly different from the jobs held by other workers? How can we evaluate the validity of these competing explanations? How can a geographic understanding of gender, class, and ethnicity help explain the current restructuring of the global economy? How effective have women been (or can

they be) in organizing to improve their economic and social status? These are among the questions we tackle; the course materials focus on urban, industrialized settings from the local to the global scale.

Ms. Hanson/Offered every other year

246 TECHNOLOGY ASSESSMENT/Seminar

This course focuses on methods and techniques presently used to assess and evaluate the consequences of technologies. Different approaches to technology assessment are discussed and various case studies are presented.

Mr. Renn/Offered every year

247 COMPUTER AND QUANTITATIVE METHODS IN GEOGRAPHY: INTERMEDIATE/Lecture, Laboratory

Focuses on the following topics: multiple correlation and regression (including the analysis of residuals); analysis of covariance, dummy variables, and other applications of the linear model; and multivariate extensions of analysis of variance. In the labs associated with this course, students work with the BMDP and SPSS software packages and are introduced to computer programming. Prerequisite: Geography 110.

Mr. Ratick/Offered periodically

249 SPATIAL ANALYSIS/Lecture

The fundamental purpose of spatial analysis is to describe, evaluate, and predict the patterns of physical and social relations between and among places. This course will provide a systematic development of the theories and methods used for spatial analysis with specific emphasis on those most applicable to decision making. Topical areas for potential application of these techniques include environmental assessment, transportation analysis, and resource management. The ways in which these methods can be used with geographical information systems will be developed.

Mr. Ratick/Offered every other year

252 LOCATING HAZARDOUS FACILITIES/Seminar

This seminar provides a problem-oriented forum to study the problem of siting hazardous facilities. The course includes a review of the theoretical foundations that relate to facility location decisions, including discussions of efficiency and equity issues, an evaluation of analytical methods that have or can be applied to this policy decision problem, and a critical analysis of specific facility location case studies. The course consists of lectures, hands-on problem analysis, and focused class discussions.

Mr. Ratick/Offered periodically

253 NEW ENGLAND LANDSCAPE/Seminar, Field Trips

The course is introduced by an examination of the idea of landscape within the geographic endeavor, followed by a history of landscape studies in New England. Substantive field and library work focuses on houses and buildings, fences, walls, land use, and settlement patterns as they hang together to give character and distinctiveness—first, to the nine subcultural regions of coastal and valley New England settled in the “First Period” (to 1725); and second, to the areas of upland New England where the Yankee “folk-housing landscape” solution covered the land in the eighteenth century. An assessment of the landscape impact of commercial villages and greens and of the mills and mill villages, created 1790-1852, completes the course. Five half-day field trips to the Central Uplands and to the Connecticut Valley. Two three-day field trips: one to southern Rhode Island, the Old Colony and the Cape, and another to the North

Shore, eastern New Hampshire, and southern Maine. Motel accommodations and food on these weekend trips cost \$100-130 total.

Mr. Bowden/Offered every other year

254 URBAN TRANSPORTATION: PROBLEMS AND PROSPECTS/Lecture, Discussion

What are the dimensions of the urban transportation problem? How can we analyze the problem so as to propose policies that might help to solve it? Topics include transportation and land use, transportation and energy, the car vs. public transit, and transportation and equity issues. We examine aggregate and disaggregate approaches to analyzing patterns of spatial behavior and evaluate the relative effectiveness of these approaches in posing solutions to urban transportation problems.

Ms. Hanson/Offered periodically

255 RISK PERCEPTION/Seminar

Based upon the theories of object perception in cognitive psychology, we investigate the intuitive mechanisms of people to collect and assimilate information about activities and events with uncertain outcomes. Discussions focus on various coping strategies in handling risky situations and on the cognitive patterns related to the assessment of uncertain events.

Mr. Renn/Offered periodically

257 THEORY OF MULTI-OBJECTIVE RESOURCE EVALUATION/Lecture

Introduction to the theory of multi-objective resource evaluation. Presents the full range of criteria required for the economic, social, and environmental evaluation of resource programs and projects, together with selected applications.

Mr. Ratick/Offered periodically

258 SOUTH AFRICA AND DEVELOPMENT IN SOUTHERN AFRICA/Seminar

Examines problems of development in the southern Africa region with particular reference to the SADCC countries and the impact of South Africa on political and socioeconomic change.

Ms. Seidman/Offered periodically

259 IMAGES, SYMBOL, AND MYTH IN THE AMERICAN WEST/Lecture, Discussion

From the first, Americans made the West what they wanted it to be: Garden of the World, El Dorado, Cibola, Passage to India, Great American Desert, Great Prairie, or Garden in the Grassland. A westering people invested this land with heroes, hunters, horse-riding Indians, trappers, scouts, cowboys, oil magnates, land boomers, and movie tycoons. The West presents a kaleidoscope of images of both outsiders and insiders, and this course considers the origins and changes in these images, their effects on behavior, and their imprint on the land. Emphasis throughout is on the methods and skills of those concerned with reconstructing the geographical knowledge (geosophy) of people of different backgrounds, roles, regions, and times.

Mr. Bowden/Offered every other year

262 URBAN ECONOMIC GEOGRAPHY/Seminar

The past two decades have witnessed dramatic changes in the American urban system and in the internal structure of cities. At the same time, this has been a period of particular vitality in the development of theory, new perspectives, and alternative discourse about the city and the contemporary urban experience. Geography 262 examines these recent developments in urban geography and

lays out in some detail a political economy of urbanization in advanced capitalist societies.

Mr. Angel, Mr. Karaska/Offered every other year

265 MONEY, BANKING, AND PUBLIC FINANCE IN DEVELOPING COUNTRIES/Seminar

Explores the consequences of alternative approaches to domestic and international banking and financial institutions and the role of government in finance development in Third World countries.

Ms. Seidman/Offered periodically

266 QUANTITATIVE METHODS IN RISK ANALYSIS/Seminar

For advanced students, an introduction to quantitative methods in risk analysis, including fault-free analysis, dose-response models, risk benefit analysis, cost-effectiveness analysis, and quantitative methods for risk comparisons. Applications to auto accidents, nuclear power, cigarette smoking, and radiation health effects.

Ms. Brown/Offered every year

268 ANTHROGEOGRAPHY/Seminar

Theories of the relations between the natural environment and human nature, culture, and society. The works of Darwin, Spencer, Kropotkin, Marx, Semple, and Wittfogel are examined as precursors to modern theories of human-environmental relations.

Mr. Peet/Offered every other year

269 ENVIRONMENT AND DEVELOPMENT IN AFRICA/Lecture, Discussion

Efforts to promote economic growth in sub-Saharan Africa have resulted in mixed outcomes. Few successful development projects exist, and the difficulties posed by environmental constraints and human impacts on environment remain considerable. The complex relationship between nature, society, and technology in the use of Africa's resources is the focus of the course.

Mr. Johnson, Ms. Rocheleau/Offered periodically

271 GROUNDWATER HYDROLOGY AND MANAGEMENT/Lecture, Discussion

An introduction to both the geological and hydrological factors controlling the occurrence and development of groundwater and the methods and impacts of groundwater management.

Ms. Emel/Offered every year

272 INTERNATIONAL DIVISION OF LABOR/Seminar

As a result of the post-World War II revolution in technologies affecting transportation and communications, analysis of Third World development requires an understanding of the consequences of the increasingly interrelated features of the global political economy. This course focuses on the role of transnational corporations and financial institutions in changing the international division of labor. The course examines how this change affects living standards, conditions of work, and incomes of workers in agriculture and industry in both developed and developing countries. Alone or in groups, students are expected to develop a term project assessing the way the changing international division of labor has affected development in a specific country or region of their choice.

Ms. Seidman/Offered periodically

273 SEMINAR IN URBAN GEOGRAPHY/Seminar

Through readings and discussions, this seminar focuses on major research problems in urban geography. Prerequisites: Geography 170 or 262, or permission.

Ms. Hanson, Mr. Angel/Offered every other year

274 SEMINAR IN CARTOGRAPHIC DESIGN/Seminar

Explores the common ground between graphic design/fine arts and cartography/geography in the area of map design. Draws upon a variety of approaches and methodologies, seeking points of consensus and clarity that can aid in both the understanding and making of maps. Capitalizes upon the different skills and interests of the professors involved and brings students into an active seminar exchange. Aspects covered include typography, color, psychophysical and cognitive approaches, aesthetics, communication and design theory, and the ideas of metacartography.

Mr. Steward/Offered every year

276 CULTURAL ECOLOGY IN THE HUMID TROPICS/Lecture, Seminar

A mystique exists about the humid tropics. Mid-latitude biases have led to inaccurate assessments of the composition of these wet, hot lands; of traditional uses of them; and of their suitability, both past and present, to support large populations and high living standards. These issues are examined by focusing on the range of environments and livelihood strategies that have existed or could exist in this region.

Mr. Turner, Ms. Rocheleau/Offered periodically

277 GENDER, RESOURCES, AND DEVELOPMENT/Seminar

Considers the gender division of control, responsibility, knowledge, labor, and benefits in the management of natural resources in developing countries. Readings, lectures, and discussion focus on the perspectives and potential of poor rural women in Africa, Latin America, and Asia as major actors in natural resource use and management and in local, regional, and global ecological transformations.

Ms. Rocheleau/Offered every other year

279 AMERICAN LANDSCAPE/Lecture, Field Trips

Every landscape contains a record of the history, ecology, values, and images of the culture(s) that produced it. Those messages are waiting to be read and interpreted by the informed observer. The American landscape encapsulates the American encounter with environment, the emergence of distinctive settlement and livelihood patterns, the dynamic tension between regional and national landscapes, and changing cultural attitudes toward the use and abuse of American space. An interdisciplinary approach featuring geographic, historical, literary, and artistic sources broadens this analysis of the contemporary landscape. Field trips required.

Mr. Johnson/Offered every other year

280 URBAN ECOLOGY: CITIES AS ECOSYSTEMS/Lecture, Discussion

Students will explore the ecology and physical geography of cities as systems built, inhabited, and "managed" by people. This special class of ecosystem is often neglected except in very specialized studies of pollution, yet it is home to many of the world's people and to a surprising number of plant and animal species as well. Readings, lectures, discussion, and written work will combine landscape and systems ecology with physical and urban geography to broaden our understanding of city environments, both present and possible.

Ms. Rocheleau/Offered periodically

281 TROPICAL ECOLOGY/Lecture, Discussion

Examines the structure and function of several major tropical ecosystems (rainforests, savannas, wetlands, coastal zones, deserts) from the perspective of systems ecology. Readings, lectures, and discussions focus on energy flows, material cycles, and species diversity and distribution. The class also explores the stability and productivity of tropical ecosystems (especially forests and savannas) under conditions of stress and their responses to widespread clearing and land use change.

Ms. Rocheleau/Offered every other year

284 LANDSCAPES OF THE MIDDLE EAST/Lecture, Seminar

A diverse array of landscapes, economies, and cultures comprise the Middle Eastern culture realm. The modernization and transformation of the traditional Islamic and non-Islamic patterns of life and livelihood in the Middle Eastern cultural mosaic are the focus of this course. Literature and ethnographic description supplement geographic analysis.

Mr. Johnson/Offered every other year

285 CAPSTONE SEMINAR: THEMES IN GEOGRAPHY/Seminar

A requirement for all geography majors, the capstone seminar examines a range of contemporary themes in the subfields of geographic research found at Clark. The seminar focuses on an example region, the Blackstone Valley, as a setting in which the interplay of nature, society, values, and historical forces have shaped geographical space. Several field trips and both group and individual research projects are course requirements.

Mr. Johnson/Offered every year

289 PROBLEMS IN POLITICAL ECONOMY OF DEVELOPMENT/Seminar

Problems of underdevelopment are examined via class discussions and student presentations. Typical problems covered include the industrialization of East Asia, the effects of underdevelopment on women, and regional development policy in Southern Africa.

Mr. Peet/Offered every year

291 JONAS AND SUSAN CLARK COLLECTION/Seminar

This is an upper-level multidisciplinary course which examines in detail the American landscape and European genre paintings of this small collection. The course considers the historical context in which the collection was formed, with special emphasis on the Clark's interest in paintings of women, nature, and oriental scenes.

Ms. Grad/Offered every other year

292 CARTOGRAPHIC DESIGN AND PRODUCTION/Lecture, Laboratory

A course concerned with the design and production of full-color printed maps. The principles and procedures of offset lithographic printing, photomechanical production (e.g. scribing), phototypesetting, process photography, process color and nonprinting reprographic techniques are discussed. In the laboratory sections, students compile, design, and produce a full-color map to a color proof stage. Prerequisite: Geography 181 or permission of instructor.

Mr. Eastman/Offered every other year

293 OVERCOMING WORLD HUNGER—AGRICULTURAL RESEARCH AND INTERNATIONAL DEVELOPMENT/Seminar

This course reviews the achievements, shortcomings, and prospects for agricultural research in resolving problems of production in developing countries.

Agricultural research over the past several decades has been characterized by significant technological breakthroughs and improvements, and at the same time by widespread policy breakdowns in the use of technological improvements. The identification of successes and failures in the agricultural development process triggered responses, both within international agricultural research centers and academic institutions in the developed world. This course treats the changes of the past decades, and especially focuses on strategies such as farming systems research, which attempt to introduce social considerations into agricultural research.

Mr. Jones/Offered every year

294 PROBLEMS IN CARTOGRAPHY/Seminar

An examination of perennial and new problems in cartography ranging from considerations of a philosophical and historical nature to the concerns of contemporary mapping. Prerequisite: permission of instructor.

Mr. Steward, Mr. Eastman/Offered every year

295 AGRICULTURE IN THIRD WORLD ECONOMIES/Seminar

Consumption and commodity agriculture in the non-Western world is explored. Emphasis is placed on the economic behavior and livelihood strategies employed in these economies and on theories of agricultural change.

Mr. Turner/Offered periodically

296 REMOTE SENSING PROJECT WORK/Lecture, Laboratory

A more detailed consideration of the use of remote sensing for environmental analysis, particularly land use. Includes a class remote sensing project and fieldwork.

Mr. Steward/Offered every other year

297 GEOGRAPHIC INFORMATION SYSTEMS/Lecture, Laboratory

A broad introduction to computer-assisted systems for geographic display and analysis. Lectures stress the fundamental logic and scope of problem solving, using each of the two main types of systems (grid and polygon-based). Laboratory exercises allow students to become familiar with the two predominant systems in use today—IDRISI (developed at Clark) and Arc/Info. Although the course is computer-oriented, no programming is involved.

Mr. Eastman/Offered every year

298 INTRODUCTION TO AUTOMATED CARTOGRAPHY/Lecture

A hands-on introduction to the fundamentals of automated cartography. Using color graphics, microcomputers, and the PASCAL computer language, the course explores the potential and reality of computer-assisted geographic display and analysis. Topics covered include programming logic for computer graphics, data structures for geographic information, thematic and general reference mapping, and geographic information systems. Programming is taught as an integral part of the course, which requires no previous computer background. Prerequisite: Geography 181 or permission of instructor.

Mr. Eastman/Offered every year

300 ADVANCED TOPICS IN PHYSICAL GEOGRAPHY/Seminar

Theories and concepts in specific areas of physical geography are examined at an advanced graduate level in the context of a research seminar. Specific topics are focused on research interests of the faculty and students taking the course. Prerequisite: permission of instructor.

Mr. Lewis/Offered periodically

304 SEMINAR ON WATERSHED ECOLOGY/Seminar

An advanced seminar that examines the current scientific literature on the functional ecology and biogeochemistry of contrasting terrestrial ecosystems. Topics covered include the inputs, outputs, and internal transfers of water and nutrients in temperate hardwood forests, pine barrens, baldcypress swamps, tropical rainforests, montane cloud forests, eucalypt woodlands, and arid environments. The processes of rock weathering, leaching from above ground vegetative surfaces, nutrient uptake by plants, and stream discharge of nutrients are emphasized.

Mr. Herwitz/Offered every other year

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY/Seminar

Designed for thesis- and dissertation-level students working in the areas of resources, development, ethno-ecology, social theory, and political economy in developing countries, who are developing proposals or preproposal research papers. The seminar provides a forum for discussion, criticism, and practical advice. Places strong emphasis on ethnographic approaches and a combination of quantitative and qualitative field methods.

Ms. Rocheleau/Offered periodically

312 SEMINAR: AGRICULTURE AND DEVELOPMENT/Seminar

A reading seminar on major interdisciplinary themes dealing with various aspects of agricultural growth and development among traditional farmers and Third World countries. Issues of study include growth vs. development, transitional farming behavior, and constraints to production.

Mr. Turner/Offered periodically

314 RESEARCH DESIGN, RESEARCH METHODS/Seminar

Covers all the major topics in research design and methodology: e.g., problem definition, research strategies, measurement, sampling, and data collection techniques and procedures.

Mr. Mitchell/Offered every year

318 EXPLANATION IN GEOGRAPHY/Seminar

Varying views of explanation, including positivist, realist, and conventionalist, are explored. Particular attention is given to the tensions between structural and nonstructural explanation and the integration of theory and empirical facts. Meets first-year core course requirement for geography graduate students.

Mr. Angel/Offered every year

327 GEOGRAPHY AND SOCIAL THEORY/Seminar

Explores major themes in contemporary social theory as they relate to geographical studies.

Mr. Angel, Mr. Peet/Offered every other year

330 SEMINAR IN CULTURAL ECOLOGY/Seminar

The "ecological transition," the increasing incorporation of nature into human culture, is the point of departure for an examination of the theory, method, and policy relevance of cultural ecology. Prerequisite: Geography 177 or equivalent.

Mr. Johnson, Mr. Turner/Offered periodically

336 HOUSEHOLD ECONOMIC BEHAVIOR AND THE GEOGRAPHY OF DEVELOPMENT/Graduate Seminar

Explores the nature and role of the household as a socioeconomic organization and primary decision-making unit in developing countries. Key issues relate to

semisubsistence farm households, migration, urban-rural linkages, gender and age divisions of labor, women farmers, and cash crop versus food crop. Decision-making theory and the economics of household production are studied as a basis for household-level research on resource management. Staff/Offered periodically

338 SEMINAR IN INDUSTRIAL GEOGRAPHY/Seminar

Surveys recent trends in industrial geographic theory in response to the internationalization of capital and the rapidly changing futures of old industrial regions.

Mr. Peet, Mr. Karaska/Offered periodically

342 SEMINAR IN HUMAN DIMENSIONS OF GLOBAL CHANGE: DRIVING FORCES/Seminar

Human-induced global environmental change has reached unprecedented magnitudes and now includes direct impacts on the biogeochemical flows that sustain the biosphere. Social science understanding of the human dimensions of this scale and kind of change is poorly developed, and the research agenda to address is still emerging. This seminar explores the role of humankind as the driving force or source of global change. Emphasis is placed on the development of a framework that helps to identify these forces and to understand their role by situation (local/regional variability) and by spatial scale.

Mr. Turner/Offered periodically

343 SEMINAR IN HUMAN DIMENSIONS OF GLOBAL CHANGE: RESPONSES AND MANAGEMENT/Seminar

This course explores societal responses to and management of global environmental change. Major topics to be addressed are: societal response pools, adaptation vs. adjustment, surprise, policy analysis, and regulatory response.

Mr. Kasperson/Offered every other year

345 RESEARCH SEMINAR IN ENVIRONMENTAL PERCEPTION/Seminar

Examines theories and major research on the human perception of the natural and social environment and the relationship between perception and behavior. Attention will be given to the relevant methodologies. Part of the semester will be devoted to students' research interests.

Mr. Mitchell/Offered periodically

350 NATURE, SOCIETY, AND TECHNOLOGY/Seminar

Examines theories and major research findings on the relationship between human societies and the natural environment.

Mr. Mitchell/Offered every other year

351 SEMINAR IN RESOURCE GEOGRAPHY: THEORY AND METHOD/Seminar

Examination of major theories and methods of resource estimation, allocation, and management, providing coverage of the scholarly literature of the field.

Ms. Emel/Offered every other year

355 SOCIAL FORESTRY AND DEVELOPMENT/Seminar

Considers the importance of trees and forests to the social and ecological well-being of people, with an emphasis on the interests of rural people in Africa, Asia, and Latin America. The class examines forest resources as a growing focus of political and economic action at local, national, and international levels

during the coming decade. After a broad review of the field, students concentrate on case study examples of technical and policy innovations in social forestry and agroforestry.

Ms. Rocheleau/Offered every other year

357 SEMINAR: APPROACHES TO REGIONAL DEVELOPMENT PLANNING/Seminar

This graduate seminar is intended to provide an understanding of the issues encountered in development intervention: issues of growth and equity, of sectoral emphasis, of spatial distribution, and of relations between classes, regions, states, and natural resources. Through a review of the literature on development economics, political economy, growth models, spatial analysis, modernization theories, and rural-urban dynamics, this course focuses on concepts of the region as the unit for development planning and intervention.

Mr. Karaska/Offered periodically

360 DEVELOPMENT THEORIES AND PHILOSOPHIES OF CHANGE/Seminar

A graduate seminar that examines development theory relating theory, issues, and practice with an emphasis on the evolution of ideas and the search for alternative approaches to development interventions.

Ms. Seidman, Staff/Offered every year

362 SEMINAR IN GEOMORPHOLOGY/Seminar

Explores patterns of thought in modern geomorphology focusing particularly on fluvial and mass wasting processes acting directly on hill slopes, and lands affected by human activities.

Staff/Offered periodically

365 SEMINAR IN SOCIAL AND ECONOMIC GEOGRAPHY/Seminar

Theories of regional development and underdevelopment, industrial restructuring, and the role of the state are examined at an advanced level. A background in underdevelopment theory is required.

Mr. Peet/Offered every year

368 COLLOQUIUM: THE DEVELOPMENT OF WESTERN GEOGRAPHIC THOUGHT/Discussion

The colloquium examines the principal paradigms, themes, and debates within the discipline in the nineteenth and twentieth centuries and the professional structure of the field as it exists in research, education, and applied contexts. Designed primarily for graduate students in geography, for whom it is a first-year core course requirement.

Mr. Koelsch/Offered every year

369 SEMINAR IN ENVIRONMENT AND DEVELOPMENT/Seminar

The complex, often counter-intuitive, linkages between nature, society, and technology have produced more failures in attaining development objectives than successes. The seminar focuses on exploring reasons and explanations for this mixed result. Case studies from a wide range of economic, social, and environmental settings are examined to isolate principles of successful development.

Ms. Rocheleau, Mr. Johnson/Offered periodically

370 ANIMAL AGRICULTURE/Lecture, Discussion

Animals and humans have a long history of close association. First as hunters and then as domesticators, humans have relied on animals for food, fiber, labor,

and companionship. The ecology of many diseases also links people to the animals that they exploit. Today animals play an increasingly important role in efforts to increase food production and to improve diet quality in support of a growing human population. Both terrestrial and aquatic animal systems, and the theory and practice of their intensified exploitation, are examined in this seminar.

Mr. Johnson/Offered every other year

373 SEMINAR IN URBAN GEOGRAPHY/Seminar

Through readings and discussion, this seminar focuses on major research problems in urban geography. Each student formulates a research problem and designs and executes a research project. Prerequisite: permission of instructor.

Ms. Hanson, Mr. Angel/Offered every other year

395 ECONOMIC DEVELOPMENT AND POLICY ANALYSIS/Seminar

This course reviews alternative approaches to planning for development in the Third World, ranging from that proposed by the World Bank and IMF to that suggested by a socialist perspective. It explores the issues relating to institutional change required to implement alternative kinds of plans in industry, agriculture, trade, and finance. Students are expected (alone or working in groups) to develop a term project critiquing the formulation and implementation of development plans in any developing country they select.

Ms. Seidman/Offered periodically

Geology

PARTICIPATING FACULTY

Jacque L. Emel, Ph.D.: water resources, soils

Stanley R. Herwitz, Ph.D.: geomorphology, hydrology, field methods

Laurence A. Lewis, Ph.D.: geomorphology, soils

UNDERGRADUATE COURSES

No formal program in geology exists, but several introductory courses are offered each year. Students interested in the geological sciences should contact the Graduate School of Geography or one of the participating faculty to plan an appropriate major leading to graduate work in the area.

025 EARTH SCIENCE AND DEVELOPMENT/Lecture

The physical constraints on the development of agricultural resources, provision of water supplies, and urbanization are evaluated. The focus is on characteristics and issues central to the management of environmental resources, with emphasis on the range of physical environments found in Africa, Central America, and South America.

Mr. Lewis/Offered periodically

100 INTRODUCTION TO GEOLOGY/Lecture

An introduction to the basic principles of physical and historical geology. Topics covered include the formation of earth and earth materials, plate tectonics, landform evolution, glacial processes, paleontology, and the history of life. The

processes that shape the surfaces of other planets in our solar system are also considered.

Mr. Herwitz/Offered every year

114 GEOMORPHOLOGY/Lecture

The theory of plate tectonics is explored in relation to the uplift of mountains, tectonics, and volcanism. The gradual wearing down of the earth's surface by hydrological processes is emphasized in the latter part of the course. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Mr. Lewis/Offered every year

118 ENVIRONMENTAL GEOLOGY/Lecture

Examination of the basic concepts and processes within the earth sciences relative to the evaluation of risks and decisions on future policies of land use and resource utilization. The emphasis is on aspects of the environment of particular interest to geographers, geologists, and planners. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Staff/Offered every other year

211 GEOMORPHOLOGY OF HUMID TROPICS/Lecture, Discussion

The humid tropics—home of the rainforest, dry forest, and savanna—are areas of special interest to physical geographers. Deep weathering of rocks, rapid soil erosion when the forest or grasses are removed, great rivers in the tropics, and the devastating impact of human intervention are among the topics explored. Prerequisite: Geography 114, Geology 114, or permission of instructor.

Mr. Lewis/Offered every other year

215 FLUVIAL GEOMORPHOLOGY/Lecture, Discussion

The focus is on the relations between hydrology and geomorphology. The basic properties of hydraulic geometry, erosion, and deposition are explored. Prerequisite: Geography 114, Geology 114, or permission of instructor.

Mr. Lewis, Staff/Offered periodically

271 HYDROGEOLOGY/Lecture, Discussion

An introduction to both the geological and hydrological factors controlling the occurrence and development of groundwater and the methods and impacts of groundwater management.

Ms. Emel/Offered every year

German

See Department of Foreign Languages and Literatures.

Government and International Relations

DEPARTMENT FACULTY

Cynthia H. Enloe, Ph.D., *chair*: women and politics, militarization, Asian politics, British politics, ethnic and racial politics

John C. Blydenburgh, Ph.D.: elections, polling, U.S. national politics, political psychology

Brian J. Cook, Ph.D.: U.S. public policy, public administration, environmental politics, bureaucratic politics

Beverly C. Grier, Ph.D.: African politics, international development, women's studies, U.S. black politics

Sharon Perlman Krefetz, Ph.D.: U.S. urban politics, suburban politics, women and politics

Mark Miller, Ph.D.: American government, politics of law and the judiciary, Congressional politics

Knud Rasmussen, Ph.D.: political theory, European politics, business and politics

Zenovia A. Sochor, Ph.D.: Soviet Union, comparative politics, foreign policy

ADJUNCT FACULTY

Glen Gersmehl, M.A.: Peace Studies

Barbara P. Thomas-Slayter, Ph.D.: Department of International Development

VISITING FACULTY

Hussein Adam, Ph.D.: Department of International Development

George M. Lane, M.A.: U.S. foreign policy, arms control, Middle East politics

Gary Lehring, M.A.: American politics, American political theory

Mohammed Ansari Nawawi, Ph.D.: Department of International Development

William B. Voegelé, Ph.D.: international relations and organizations; international security

UNDERGRADUATE PROGRAM

The study of politics at Clark University is the study of some of the most important questions that face people of all countries. Why do regimes collapse and what replaces them? What are the rights of the individual versus the rights of the state? How can public policies reduce unequal relations between women and men, and between different racial groups? Most important, who decides such questions and how? The department offers courses that address these questions and others in international relations, in American politics, and in comparative politics. The aim of the curriculum is to provide analytic concepts, relevant information, tools for investigation, and theoretical bases—all designed to enable the student to develop her or his own answers to these questions.

REQUIREMENTS FOR THE GOVERNMENT MAJOR

The major is organized in such a way as to provide a general introduction to the study of politics, as well as an opportunity to explore one particular *subfield* in greater depth. The choice of subfields allows a student to concentrate in one area of politics. There are three subfields offered by the Government Department: American politics, comparative politics, and international relations.

A Government major must take fourteen major courses in all. Although the number of required courses is fixed, students have considerable leeway in

choosing particular courses. Most of the courses are in the Government Department. A few are from disciplines outside of the Government Department; these courses are intended to complement the study of politics with other perspectives, as well as to explore the relationships between government and other essential sectors of society. The fourteen required courses are divided into two categories:

General government requirements: 7 courses

Subfield specialization requirements: 7 courses

[NOTE: This fourteen-course requirement, including a one-seminar requirement for majors, begins with majors admitted to the class of 1992. Classes of 1990 and 1991 may fulfill the major with thirteen courses, including 3 in the subfield, with no seminar required.]

General government requirements

Seven courses:

- (1) one subfield introductory course (in addition to the introductory course in one's chosen subfield);
- (2) the economics course, *Issues and Perspectives*, Economics 10;
- (3) one course in normative political theory, taken in the Government Department (Government 203, 205, 206, or 229);
- (4) one course in research methods and skills, Government 107; and
- (5-7) three Government courses from outside one's chosen subfield.

Subfield specialization requirements

Seven courses:

- (8) the introductory course to one's chosen government subfield (*Introduction to American Government* or *Introduction to Comparative Politics* or *Introduction to International Relations*); [Note: one can take History 169 or Government 169 to fulfill this Introduction to International Relations requirement.]
- (9-11) three additional Government courses in one's chosen subfield (one of these three must be in the form of a *seminar* in one's subfield, taken in the junior or senior year); and
- (12-14) three courses, related to the subfield, from *outside* the Government Department. (A list of related courses is available from the Government and International Relations Department Office.) These three "related" courses should be worked out with one's Government Department advisor.

In summary, a total of fourteen courses—ten in Government, one in Economics, and three from related disciplines—must be taken to fulfill the requirements for the Government major.

THE INTERNATIONAL RELATIONS CONCENTRATION: AN OPTION

This option is *above and beyond* the usual international relations subfield choice. It is *not* required.

The International Relations Concentration was established in 1980 in conjunction with the Department of History. Students choosing this concentration must still satisfy the general requirements for the Government major including Economics 10 (*Issues and Perspectives*), political theory, research methods, a second introductory course, and three other government courses not in the international relations subfield. The core of the concentration includes Government 169, History 238, Economics 108, and a seminar.

Students must then, in addition, choose one of the following analytical clusters: world economics, comparative diplomacy, or a self-designed area

studies. Students must take an additional three courses in one of these clusters. Students who complete the appropriate courses receive a notation on their final transcript: "Concentration in International Relations."

INTERNSHIPS AND STUDY ABROAD

Internships in local, state, and federal government agencies and in independent public interest groups can earn students Government major credits. Study abroad may also fulfill major requirements. Students should work with their faculty advisers to ensure that appropriate credits are earned through these valuable experiences.

HONORS IN GOVERNMENT

Students with very good academic records by the middle of their junior years may apply to the Honors Program in the Government Department. The Honors Program helps to expand research and writing skills through an in-depth systematic analysis of one specific topic. Students can achieve honors by successfully completing the Honors Program, which involves researching, writing, and defending a senior thesis. Interested students should submit their application to the Honors Program *by March 1 of their junior year.*

NONMAJOR CONCENTRATION

Certain fields of study can be taken as concentrations *in addition to* and complementary to the Government major: American Studies, Women's Studies, Asian Studies, Peace Studies, and Jewish Studies. Some of these concentration requirements may *also* fulfill Government major requirements (See specific catalogue sections on these concentrations.)

STUDENT HANDBOOK

The Government Department publishes a handbook, which has a more extensive description of programs, courses, and faculty, as well as other information relevant to the major or interested student. Copies are available in the Government Department Office, Jefferson Academic Center, Room 302.

GENERAL COURSES

- 107 *Research Methods*
- 202 *Applications of Game Theory*
- 203 *Seminar: Political Theorists and Their Theories*
- 205 *Roots of Political Thought*
- 206 *Recent Political Theory*
- 229 *Seminar: Democratic and Social Theory*
- 248 *Politics of Mass Society*
- 299 *Senior Thesis in Government and International Relations*
- 299.1 *Directed Readings*
- 299.5 *Special Projects*
- 299.9 *Internship*

AMERICAN POLITICS AND PUBLIC POLICY

- 150 *Introduction to American Government*
- 154 *Public Administration and Public Policy*
- 157 *The Politics of Environmental Issues*
- 170 *American Political Thought and Behavior*
- 172 *Suburbia: People and Politics*
- 175 *Women and Politics*
- 184 *Politics and Markets*
- 204 *The American Presidency*

209	<i>The U.S. Since 1945</i>
213	<i>Policy Analysis</i>
214	<i>Seminar: Business and Politics</i>
215	<i>State Government and Politics</i>
220	<i>Urban Politics</i>
221	<i>Seminar: Public Policies and American Cities</i>
223	<i>Seminar: Suburban Policy Issues</i>
224	<i>Black Politics in the U.S.</i>
225	<i>Seminar: History of African-American Women</i>
251	<i>American Political Parties and Pressure Groups</i>
254	<i>American Constitutional Law</i>
255	<i>The Legislative Process</i>
258	<i>Mass Media and American Politics</i>
269	<i>Public Policy and Machiavelli Revisited</i>
281	<i>Politics of U.S. Bureaucracy</i>
282	<i>Seminar: Housing Policies</i>
292	<i>Seminar: Organizational Behavior</i>
294	<i>Seminar: Campaigns and Elections</i>

COMPARATIVE POLITICS

103	<i>Africa and the World</i>
106	<i>Introduction to Comparative Politics</i>
112	<i>Comparative Authoritarian Systems</i>
117	<i>Revolution and Political Violence</i>
125	<i>Developmental Problems</i>
136	<i>Sub-Saharan Africa: Issues and Problems</i>
178	<i>Politics and History of South Africa</i>
182	<i>Comparative European Political Systems</i>
207	<i>Seminar: Politics and Development: Central America and Southern Africa</i>
208	<i>Comparative Politics of Women</i>
222	<i>Strategies of Development and Change in Communist Political Systems</i>
228	<i>Comparative Politics of Race, Ethnicity, and Gender</i>
235	<i>Comparative Bureaucratic Politics</i>
236	<i>Politics of Vietnam and the Philippines</i>
242	<i>Politics of Development</i>
244	<i>Contemporary African Politics</i>
256	<i>Government and Politics of the Soviet Union</i>
261	<i>Seminar: Women and Militarization in a Comparative Politics Perspective</i>
265	<i>Politics of Japan</i>
286	<i>Seminar: Advanced Topics in the Soviet Union</i>

INTERNATIONAL RELATIONS

103	<i>Africa and the World</i>
111	<i>Survey of Peace Studies</i>
169	<i>Introduction to International Relations</i>
173	<i>Politics of War and Peace</i>
179	<i>Comparative Foreign Policy</i>
211	<i>The United Nations</i>
234	<i>Seminar: Arms Control</i>
245	<i>U.S. Foreign Policy—Middle East</i>
249	<i>International Political Economy</i>
250	<i>U.S. National Security Policy</i>

280	<i>Soviet Foreign Policy</i>
283	<i>The Superpowers and the Third World</i>
285	<i>Seminar: Special Topics in Peace Studies</i>
289	<i>Seminar: Advanced Topics in International Relations</i>

COURSES

103 AFRICA AND THE WORLD/Lecture, Discussion

Refer to description under History 60.

Ms. Grier/Offered every other year

106 INTRODUCTION TO COMPARATIVE POLITICS/Lecture, Discussion

This course concentrates on two countries' politics each term: Britain and Mexico one year, and France and Canada in the alternate year. By looking at two countries in depth, the course explores political issues common to all countries, such as the role of the military, the relations between racial and ethnic groups, and the changing character of citizens' political influence. Open to majors and nonmajors.

Ms. Enloe/Offered every year

107 RESEARCH METHODS/Lecture, Discussion

The focus of this course is the logic of the research process: from developing a research design (e.g., formulating and stating testable hypotheses, and operationalizing concepts) to collecting and analyzing appropriate data (e.g., conducting survey research and using the computer to generate contingency tables and calculate measures of association). The broad concepts that underlie various methods and techniques are considered, as are statistical manipulations necessary to employ them. Students use data sets surveying political attitudes and behavior in recent U.S. elections for homework assignments and computer projects.

Mr. Blydenburgh, Ms. Krefetz/Offered every year

111 SURVEY OF PEACE STUDIES/Lecture, Discussion

Refer to course description under Peace Studies.

Staff/Offered periodically

112 COMPARATIVE AUTHORITARIAN SYSTEMS/Lecture, Discussion

One of the most interesting questions of today is why are so many authoritarian regimes suddenly toppling? Has the era of dictators and grand designs passed, or is this a transitional phase leading to new forms of demagoguery and repression? Through a comparative study of several authoritarian regimes, the course seeks to understand the dynamics of modern authoritarianism: its inception and structure, its transitional or permanent nature, and its distinct variations. The course first examines prevalent historical examples (e.g., Hitler's Germany or Franco's Spain), and then selects contemporary case studies from Europe, Latin America, and the Middle East.

Ms. Sochor/Offered every other year

117 REVOLUTION AND POLITICAL VIOLENCE/Lecture, Discussion

This course analyzes the concept, the causes, and the process of revolution. The course explores the distinctions between revolution and other forms of political violence, such as terrorism, rebellion, and coups. It also reviews general theories of revolution in order to gain some appreciation of the difficulties, peculiarities, and goals of specific revolutionary movements. The course focuses on the Russian and Chinese revolutions as twentieth-century prototypes;

it then draws comparisons to recent revolutions in the Middle East and Latin America.

Ms. Sochor/Offered every other year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Refer to course description under International Development 125.

Ms. Thomas-Slayter/Offered every year

136 SUB-SAHARAN AFRICA: ISSUES AND PROBLEMS/Lecture, Discussion

Refer to course description under International Development 136.

Ms. Grier, Ms. Thomas-Slayter/Offered every other year

150 INTRODUCTION TO AMERICAN GOVERNMENT/Lecture

This course is an introductory study of American political processes and the performance of the American governmental system. Primarily devoted to an overview of the contemporary structure and operation of national institutions, the course also addresses American political culture, voting and elections, the evolution of federalism, and important public issues such as civil rights, civil liberties, and economic change.

Mr. Blydenburgh, Mr. Cook, Mr. Miller/ Offered every semester

154 THE POLITICS OF PUBLIC POLICY/Lecture, Discussion

How do ideas become policies? Who influences decisions about public action? Do the dynamics of policy making vary by issues? This course investigates the politics of policy making at the national level. Different frameworks for understanding policy making are introduced, and the roles of, and interactions among, the principal policy-making institutions are examined. Course content and assignments emphasize conceptual understanding and application to such policy issues as voting rights, affirmative action, social security, and international trade. Beyond lectures and discussions, class meetings include simulations, experiments, and student presentations. Government 150 is strongly recommended as a prerequisite. (Government 154 was formerly Government 109.)

Mr. Cook/Offered every other year

157 THE POLITICS OF ENVIRONMENTAL ISSUES/Lecture, Discussion

Modern environmental problems have significant social, economic, and political roots. This course is intended to provide the student with a basic understanding of those critical dimensions of environmental issues. The course considers the sources of environmental problems, how issues arise, how policies have been formulated, and what effects the policies have had. The general topics covered include the physical nature of pollution problems, the social and political dynamics of pollution problems, and the development of environmental policy in the U.S. A number of current environmental problems are reviewed through films, student presentations, and direct investigation.

Mr. Cook/Offered every other year

169 INTRODUCTION TO INTERNATIONAL RELATIONS/Lecture

This course is designed to equip the student with the analytic and conceptual tools to make sense out of the many complexities of international politics. The first part of the course is organized around the concepts of nation-state, sovereignty, power, perception, system, intervention, verbal strategy, and reciprocity. Next, it explores the nuclear relationship between the Soviet Union and the United States in some detail. The final section of the course takes up topics related to North-South relations, the gap between rich and poor nations, and different development strategies. Particular attention is paid to global

corporations, global debt, the International Monetary Fund, and the changing international division of labor.

Mr. Voegelé/Offered every year

[Note: Students may take History 169 in place of this course for the Government major requirement for Introduction to International Relations. A student cannot take both History 169 and Government 169 for credit.]

170 AMERICAN POLITICAL THOUGHT AND BEHAVIOR/Lecture, Discussion

There are three major foci for this course: (1) some of the most important ideas that have formed a distinctive American political culture—our shared values, beliefs, attitudes, and expectations of government; (2) how this culture is transmitted by society, i.e., the process of political socialization, through which our political orientations and behavioral predispositions are shaped; and (3) contemporary political attitudes and behavior in the U.S., especially voting in recent presidential elections by various groups, such as women, blacks, Jews, and Catholics.

Staff/Offered periodically

172 SUBURBIA: PEOPLE AND POLITICS/Lecture, Discussion

The growth of suburbs in the United States since the end of World War II has had considerable impact on the nature of our metropolitan areas. This course focuses on the following questions: Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What are the patterns of policy making in issues such as education, zoning, and property taxes?

Ms. Krefetz/Offered every other year

173 POLITICS OF WAR AND PEACE/Lecture, Discussion

This course is designed to provide students with an opportunity to examine some of the principal actors and policy-making processes concerning issues of war and peace. It focuses on understanding the causes of war, the traditional approaches to preventing or managing war (such as international law or arms control), and the challenges of constructing a more peaceful world political system. The course draws heavily on case studies of wars and acute conflicts, efforts at conflict resolution and nonviolent social change.

Mr. Voegelé/Offered every other year

175 WOMEN AND POLITICS/Lecture, Discussion

This course explores the political attitudes, behavior, and status of women in the United States. Views on the nature of women and their “proper” role in society and the state, set forth by classical political philosophers in ancient times, are contrasted with ideas introduced by women’s rights theorists, beginning in the eighteenth century. The rise of the women’s movement in the nineteenth century and the battle for female suffrage are considered as a backdrop for understanding the rebirth of feminism in the 1960s and the struggle over the Equal Rights Amendment. Other major topics deal with contemporary American politics, including: gender differences in political socialization and political participation, the “gender gap” in voting preferences, women as politicians and bureaucrats, and efforts by women to influence public policies such as abortion and equal credit.

Ms. Krefetz/Offered every year

178 POLITICS AND HISTORY OF SOUTH AFRICA/Lecture, Discussion

The aim of the course is to acquaint students with the forces that have shaped

the political system in South Africa today. The structure of the economy (mining, agriculture, and industry) is examined with particular attention paid to the role of black labor. The rise and consolidation of Afrikaner nationalism, the introduction and implementation of apartheid, the struggle of blacks against apartheid and growing rural and urban poverty, and South Africa's policy toward neighboring African countries are among the topics discussed. The economic and political role played by American investment in South Africa is explored, as is official U.S. policy toward the country.
Ms. Grier/Offered every year

179 COMPARATIVE FOREIGN POLICY/Lecture, Discussion

This course explores the factors that influence the formulation and execution of foreign policy. Attention is accorded to the international setting of foreign policy making, as well as the domestic sources of foreign policy behavior. Comparisons and contrasts are drawn among several countries in order to gain insight into the range of foreign policy options, constraints, and strategies. Particular attention is given to European and Soviet foreign policy.
Ms. Sochor/Offered every other year

182 COMPARATIVE EUROPEAN POLITICAL SYSTEMS/Lecture, Discussion

A comparative study of the major Western European political systems. Study of the political historic development will lay the basis for comparison of modern functions of government. Emphasis is placed on systemic analysis and its importance for comparative politics.
Mr. Rasmussen/Offered every year

184 POLITICS AND MARKETS/Lecture, Discussion

The theory of capitalism becomes an ideology when it is used to explain politics and government. And that is just what is at the core of American political culture: the concepts of market economics permeate our understanding of how government works. But do these concepts work? Are they suitable to explain the workings of a democratic political system? What is the effect of this way of thinking on what Americans value as a nation? This course seeks answers to questions by applying economic tools to American national government, and evaluating the results.
Mr. Blydenburgh/Offered every year

202 APPLICATIONS OF GAME THEORY/Lecture, Discussion

Game theory was invented by John Von Neuman in the 1920s as a language and a logic for analyzing human conflict. It purports to be useful (and your professor believes it is) in systematically identifying the best strategies for resolving many types of conflicts. Emphasis in this course is on understanding and applying the language and the logic. But a substantial amount of the course deals with applications and illustrations, for example, to international relations, nuclear confrontation, political campaigning, and a host of other real-life situations. Emphasis is on "two-person" models with a selective review of "n-person" models. Students learn how to use bargaining, threats, commitments, mediators, ignorance, and power in resolving conflicts.
Mr. Blydenburgh/Offered every other year

203 POLITICAL THEORISTS AND THEIR THEORIES/Seminar

Each time this course is offered it will focus on just one or two men or women whose theories have influenced our ideas about power, governing, liberty, equality, or justice. By focusing on only one or two theorists, we will be able to explore in depth their own lives, the societies and events that shaped their ideas. Different members of the Government Department will take turns

offering this course. For example, in 1990-91, Professor Enloe will concentrate on Hannah Arendt, a German American Jewish woman who is credited with creating the theory of totalitarian politics. This course will fulfill the Government major requirement for Political Theory.

Ms. Enloe/Staff/Offered every other year

204 THE AMERICAN PRESIDENCY/Lecture, Discussion

This course focuses on the office of the presidency and the various leadership styles of American presidents. We will examine the president's changing role in American politics; the evolution of the modern presidency; and the selection and nomination process and presidential character. This course takes a critical look at the office of president and proposes reforms for the future.

Mr. Miller/Offered every other year

205 ROOTS OF POLITICAL THOUGHT/Lecture, Discussion

This is a study of the development of Western political thought from the Socratic philosophers to Hobbes. Trend-setting philosophers and ideas that have transcended their time are given special attention. The evolution of political thought is discussed in the context of influential social, political, and economic forces.

Mr. Rasmussen/Offered every year

206 RECENT POLITICAL THEORY/Lecture, Discussion

A study of modern political theory as developed in the context of the social, political, and economic forces that have shaped Western thought since the French Revolution. Socialism, democracy, and conservatism are discussed in both an evolutionary and contemporary setting.

Mr. Rasmussen/Offered every year

207 POLITICS AND DEVELOPMENT: CENTRAL AMERICA AND SOUTHERN AFRICA/Seminar

The course examines the theoretical debates surrounding concepts such as development, modernization, underdevelopment, and dependency. It looks in some detail at the politics of development in two countries: one in Central America and one in Southern Africa. The role of political parties, the bureaucracy, the military, the extremes of wealth and poverty, and the impact of global economic and political forces on these countries are examined.

Ms. Grier/Offered every year

208 COMPARATIVE POLITICS OF WOMEN/Lecture, Discussion

This course explores the roles, priorities, strategies, and theories of women in Britain, the Soviet Union, and the Philippines. Causes for changes-or lack of genuine changes-in women's political status are investigated to shed new light on those countries' political systems. The politics of industrialization, revolution, sexuality, labor, cross-race alliances, and the family are discussed. One or more previous courses in Government or in Women's Studies is strongly advised.

Ms. Enloe/Offered every year

209 THE U.S. SINCE 1945/Lecture

Refer to course description under History 209.

Mr. Little/Offered every other year

211 THE UNITED NATIONS/Lecture, Discussion

The core component of this course is participation in the Harvard National United Nations Conference and National Model U.N. Conferences. The members of the class represent Clark University at the conference by acting as delegates

from nation-states. Issues ranging from disarmament to human rights to current political crises are researched. Students prepare resolutions and speeches and learn the rules of procedure operative at the United Nations. Oral reports and a written paper also are required. Open to all qualified students, though class size is limited and permission of the instructor is required. Government 210 or relevant experience strongly recommended.
Mr. Voegel/Offered every year

213 POLICY ANALYSIS/Lecture, Discussion

Policy analysis is broadly understood as the application of social science to public problems. The roots of policy analysis are multidisciplinary, with major theoretical and methodological contributions made by economics and political science. This course examines the epistemological underpinnings and general techniques employed in analysis. The objective is to provide students with the ability to understand critical public problems in multidimensional ways and to recognize under what circumstances particular techniques are appropriate. The major assignment is participation in a class project analyzing a current policy problem. Government 107 or Economics 160 and some exposure to microeconomics strongly recommended. Limited to juniors and seniors.
Mr. Cook/Offered every other year

214 BUSINESS AND POLITICS/Seminar

This course examines the social role of business from a theoretical and a practical point of view. The theoretical aspects are explored through a series of readings of major writers in this area. The practical aspects are dealt with through the use of community resources. This course permits individualized reports in specific areas of interest. Enrollment is limited to twenty students.
Mr. Rasmussen/Offered every other year

215 STATE GOVERNMENT AND POLITICS/Lecture, Discussion

This is an overview of the operation of state governments, explaining the distinctive features of states in terms of their individual political, economic, historical, legal, and demographic characteristics. The focus is on how these features explain state political systems in the present and how they are likely to shape the states of the future. Special attention is given to Massachusetts and other Northeastern states. Prerequisite: Government 150.
Mr. Blydenburgh/Offered every other year

220 URBAN POLITICS/Lecture, Discussion

The primary focus is on the various socioeconomic and political forces that affect American urban politics and policy making. Topics discussed include: the social, economic, and political nature of the city; fiscal constraints; federal and state urban policies; political machines; reforms; the "Post-Reform Era"; the community power debate; mayoral power and styles; city employees; and efforts by blacks and Hispanics to gain political incorporation.
Ms. Krefetz/Offered every year

221 PUBLIC POLICIES AND AMERICAN CITIES/Seminar

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, housing, urban redevelopment, poverty, the police, and education, and what accounts for the differences? Special attention is given to the political aspects of the implementation process and to issues concerning the equity of services delivered. After a critical review of the existing literature, research is conducted on a policy area of the student's choosing in Worcester and/or other cities.

When possible, internships with appropriate city agencies or officials will be arranged. Government 220 or permission of instructor.

Ms. Krefetz/Offered every other year

222 COMMUNIST POLITICAL SYSTEMS IN TRANSITION/Lecture, Discussion

The year 1989 was a year of revolution in communist political systems; the nineties will be a decade of turbulence and transition. This course examines the interplay among ideology, economic development and political power in the formation and development of communist political systems. In particular, the course will explore the underlying flaws which lead to the collapse of communism. The course briefly examines the Soviet model and then concentrates on Eastern Europe; some of the unique experiences of China and Cuba are also taken into account.

Ms. Sochor/Offered every other year

223 SUBURBAN POLICY ISSUES/Seminar

This course picks up where the introductory suburban politics course leaves off and explores politics and policy making on several major issues in suburban communities, especially zoning and land use, education, and property taxes. Students conduct original research on these issues in Worcester and the Boston suburbs. Prerequisite: Government 172 or permission of instructor.

Ms. Krefetz/Offered periodically

224 BLACK POLITICS IN THE UNITED STATES/Lecture, Discussion

In this course, we analyze the black political experience today and in the past. Among the topics to be explored are: black theory and debate, black politics in cities and labor unions, blacks in the bureaucracy, black women, and a comparison of Northern and Southern black politics.

Ms. Grier/Offered every other year

225 HISTORY OF AFRICAN—AMERICAN WOMEN/Seminar

Refer to course description under History 224.

Ms. Grier/Offered every other year

228 COMPARATIVE POLITICS OF RACE, ETHNICITY, AND GENDER/Lecture, Discussion

In this course, we explore the politics of "ethnicity" and "race" for groups as different as Asian-Americans, black Britons, South African Afrikaners, Soviet Muslims, French Canadians, and others in the politics of both industrialized and Third World countries. The political interactions of sex, race, class, and state power are analyzed. Some previous study of international development, comparative politics, history, sociology, or women's studies would be very useful.

Ms. Enloe/Offered every other year

229 DEMOCRATIC AND SOCIAL THEORY/ Seminar

"Democracy is the worst possible form of government but the only one acceptable until a better one is found." Twentieth-century critics of democracy are numerous, but so are its defenders. The concept's development, viability, and vitality are analyzed in this seminar; so are its different forms, including liberal democracy, popular democracy, people's democracy, or social democracy. The patterns the forms follow and the alternatives to democracy they produce are discussed. The focus of the seminar is on political theory; a prior knowledge of practical politics and ideology traditionally identified as "ism" is helpful.

Mr. Rasmussen/Offered every year

234 ARMS CONTROL/Seminar

Examines the key issues and current state of play in the major arms control negotiations involving the U.S. and the U.S.S.R., including discussion of such specific topics as verification, nuclear terrorism, command and control, and nuclear weapons testing.

Mr. Lane/Offered every other year

235 COMPARATIVE BUREAUCRATIC POLITICS/Lecture, Discussion

In both industrial and Third World nations, bureaucrats and their agencies have shaped political life. They are not "faceless"; they have hopes, fears, strategies, and alliances. This course uses cases from Europe, Africa, and Asia to explore when bureaucrats are strong and when they are weak, and why it matters today to both ordinary citizens and elites. We look at politics from the point of view of people inside government agencies and also from the point of view of men and women of different ethnic groups whose lives are affected by those officials.

Ms. Enloe/Offered periodically

236 POLITICS OF VIETNAM AND THE PHILIPPINES/Lecture, Discussion

We analyze changes, and resistance to change, that have occurred in these two countries. Peasant politics, elite politics, nationalism, foreign investment, the military, ethnic politics, and women's politics are explored. We investigate what this suggests about the entire region of Southeast Asia today.

Ms. Enloe/Offered every other year

242 POLITICS OF DEVELOPMENT/Seminar

Refer to course description under International Development 242.

Mr. Nawawi/Offered periodically

244 CONTEMPORARY AFRICAN POLITICS/Lecture, Discussion

Refer to course description under International Development 244.

Mr. Adam/Offered periodically

245 U.S. FOREIGN POLICY-MIDDLE EAST/Lecture, Discussion

This course provides an overview of U.S. foreign policy and diplomacy towards Israel and Arab countries since World War II. The first sessions review the factors that affect the formation and implementation of U.S. foreign policy in the Middle East. The remaining sessions deal with the events of the last forty years in this region, and how they have affected and been affected by U.S. policy.

Mr. Lane/Offered periodically

248 POLITICS OF MASS SOCIETY/Lecture, Discussion

Twentieth-century Western societies have been strongly affected by the expansion of human consciousness through self-knowledge and technological change. However, simultaneous with the benefits of psychological development is the apparent rise of mass character disorders which are destructive of the essential values of Western culture. This seminar explores the psychological and historical roots of both changes, and their implications for democratic government and contemporary political movements. Open to juniors and seniors only.

Mr. Blydenburgh/Offered every year

249 INTERNATIONAL POLITICAL ECONOMY/Lecture, Discussion

Organized around the debate among world systems theory, Marxist theories of imperialism, and liberal developmentalism about the structure of the global economy. The evolution of the global economy from 1450 to the present is

analyzed. Themes such as hegemonic cycles, underdevelopment, and imperial dominance organize the historical sections of the course. Finally, contemporary issues such as the changing international division of labor, the political economy of global debt, and the politics of primary commodity trade receive attention.

Mr. Voge/Offered every other year

250 NATIONAL SECURITY POLICY MAKING IN THE U.S./Lecture, Discussion

This course explores the domestic and international politics of American national security policy. Approximately a third of the course is devoted to the historical background and the principal policy-making institutions involved in security policy. The course then focuses on selected national security "problems," such as NATO and European defense, strategic nuclear weapons and arms control, and intervention and low-intensity conflict.

Mr. Voge/Offered every other year

251 AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS/Lecture, Discussion

This course explains the primary importance of interest groups and political action committees in the American political system. Special emphasis is placed on theories of interest groups: why people join them, and why certain political groups fail to organize and make demands on government structures. Interest groups and political parties are compared and contrasted. The course also examines the degree to which parties have declined in importance in American politics.

Mr. Miller/Offered every other year

253 JUDICIAL POLITICS

This course explores the relationships between the courts and other sectors of the American political system. Among the topics studied will be how judges are selected, how courts handle criminal cases, and how interest groups use the courts.

Mr. Miller/Offered every other year

254 AMERICAN CONSTITUTIONAL LAW/Lecture, Discussion

This course focuses on the historic and contemporary role of the Supreme Court in interpreting the Constitution. Topics include the nature of federalism, regulation of business, freedom of speech and religion, equal rights, rights of the accused, and the issues of prayer and abortion.

Mr. Miller/Offered periodically

255 THE POLITICS OF CONGRESS/Lecture, Discussion

An in-depth examination of the contemporary politics of the U.S. Congress from both an individual and institutional perspective. Major topics include Congressional elections, differing views of representation, House-Senate differences, Congressional policy making, relationships between Congress and the presidency, the bureaucracy and interest groups, and the future of the institution. Prerequisite: Government 150. Limited to juniors and seniors.

Mr. Miller/Offered every other year

256 GOVERNMENT AND POLITICS OF THE SOVIET UNION/Lecture, Discussion

This course examines key factors in the formation and evolution of the Soviet political system. The first part of the course reviews critical junctures in Soviet political history; the second part focuses on the contemporary Soviet system. It

is a tremendous challenge to understand the contemporary system since it is a system in flux. Long-standing assumptions about Soviet politics have fallen by the wayside. The course tries to gain some insight on this moving target. In particular, the course explores the causes, aims, and methods of Gorbachev's reform program.

Ms. Sochor/Offered every year

258 MASS MEDIA AND AMERICAN POLITICS/Lecture, Discussion

This course explores the profound effect of the media-electronic and print-on contemporary American politics. Emphasis is placed on the role of the media as policy makers and includes a discussion of the media's coverage of Vietnam, civil rights, and protest movements generally. The impact of the media on individuals, the media's coverage of elections and women candidates, and the legal and regulatory aspects of media intervention in politics are covered.

Staff/Offered periodically

261 WOMEN AND MILITARIZATION IN A COMPARATIVE POLITICS PERSPECTIVE/Seminar

We examine the analytical proposition that the process by which any country's military grows in influence is shaped by its ideas about "masculinity" and "femininity." We explore questions such as: What do women's own experiences in wartime and peacetime reveal about military politics? What do we expose about militaries when we look behind governments' policies to use women as mothers, wives, workers, or prostitutes? Do racial and economic differences shape the military sexual division of labor? Countries such as Britain, Chile, the Philippines, and the U.S. are discussed. Previous government or women's studies courses are desirable. Limited to juniors, seniors, and graduate students.

Ms. Enloe/Offered every other year

265 POLITICS OF JAPAN/Lecture, Discussion

Japan is considered one of the world's four great powers. Yet its domestic political dynamics are not widely understood by Americans. This course explores the major factors that have shaped Japanese politics and government policies since 1945. Among the topics to be analyzed are: factional rivalries within major parties; the influence of bureaucrats; and the role of women, minorities, and business in politics. The course is open to majors and nonmajors.

Ms. Enloe/Offered every other year

269 PUBLIC POLICY AND MACHIAVELLI REVISITED/Lecture, Discussion

This course offers an in-depth analysis of Machiavelli's political theory and approach to policy making. The course differentiates between normative theory and objective analysis. In the process, themes developed by Machiavelli are applied to current policy formation and models for public policy analysis.

Mr. Rasmussen/Offered every other year

280 SOVIET FOREIGN POLICY/Lecture, Discussion

This course provides an overview of Soviet foreign policy from the country's uncertain beginnings as the first Marxist state to its contemporary position as a superpower. The course considers the problems and goals of the successive phases of Soviet foreign policy; it also examines the relative importance of domestic and international factors in the decision-making process. Emphasis is given to the "new thinking" in Soviet foreign policy introduced by Gorbachev, and its impact on Soviet relations with the United States, Europe (East and West), and the Third World.

Ms. Sochor/Offered every other year

281 THE POLITICS OF BUREAUCRACY IN THE U.S./Seminar

Administrative agencies wield considerable power and policy-making authority in American politics. What distinguishes one agency from another? How do bureaucratic agencies derive their power? How do Congress and the president attempt to control the bureaucracy? What kind of politics prevails inside bureaucratic agencies? Case studies and student research provide the vehicles for exploring these questions in depth. Other American politics courses strongly recommended. Limited to juniors and seniors.

Mr. Cook/Offered every other year

282 HOUSING POLICIES/Seminar

This course focuses on the social, economic, and political factors that shape the federal government's housing policies and the implementation of housing programs by local governments in metropolitan areas of the United States. Among the major topics explored are: the myths and realities of public housing; urban renewal; gentrification; linkage; responses to homelessness; rent control; condominium conversions; and redlining, exclusionary zoning, and other forms of racial, gender, and income discrimination in housing.

Ms. Krefetz/Offered every other year

283 SUPERPOWERS AND THE THIRD WORLD/Seminar

The purpose of this course is two-fold: (1) to consider the goals and policies of the superpowers toward the Third World, and (2) to examine specific case studies where these goals and policies were carried out, amended, or challenged. Some of the underlying questions posed in this course include: What are the superpowers' expectations of, and sources of influence on, the Third World? How are local problems exacerbated by superpower intervention? To what degree are North-South issues affected by East-West considerations? What effect will the "end of the Cold War" have on the Third World?

Ms. Sochor/Offered every year

285 SPECIAL TOPICS IN PEACE STUDIES/Seminar

Refer to course description under Peace Studies 285.

Staff/Offered periodically

286 ADVANCED TOPICS IN THE SOVIET UNION/Seminar

The course explores in greater depth some of the current challenges and problems facing the Soviet leadership. Topics may vary according to the changing Soviet political scene, and may include the following: the upsurge of ethnic and national consciousness and its implications for political stability; the emergence of a civil society; economic reform vs. entrenched bureaucracies; and "new thinking" in Soviet foreign policy.

Ms. Sochor/Offered every other year

289 ADVANCED TOPICS IN INTERNATIONAL RELATIONS/Seminar

The subject matter of this course varies from year to year. However, the format is that of a senior seminar. Either international relations theory in general is discussed and then applied by students in a twenty- to thirty-page research paper, or a specific topic is tackled in great depth. A midterm and a substantial final research paper are required.

Staff/Offered every year

292 ORGANIZATIONAL BEHAVIOR/Seminar

The core argument on which this course is based is that organizations, especially bureaucratic ones, are best understood as political entities. The principal issues concern how executives and managers design the control

systems of bureaucracies to manipulate the behavior of subordinates, and how subordinates are able to resist such attempts at control. The principal schools of thought on organizational behavior, including scientific management, human relations, and neo-Weberian approaches are considered for their contributions to a political interpretation of organizational behavior. Case studies and student research provide the material for class discussions. Limited to juniors and seniors.

Mr. Cook/Offered every other year

294 CAMPAIGNS AND ELECTIONS/Seminar

Nowhere is the political impact of the new technologies of communication and information processing more powerful than in the electoral system. A corps of professional campaign managers has emerged—women and men whose expertise has changed the meaning of elections in American politics. This seminar seeks to develop an understanding of this new and volatile source of political power through readings, research, and illustration.

Mr. Blydenburgh/Offered every other year

Hebrew

See Department of Foreign Languages and Literatures.

History

DEPARTMENT FACULTY

Paul S. Ropp, Ph.D., *chair*: Chinese history, social and intellectual history

Douglas J. Little, Ph.D., *acting chair 1990-91*: U.S. diplomatic history, U.S. twentieth-century history

Daniel R. Borg, Ph.D.: modern German history, modern European history, totalitarianism

Sarah J. Deutsch, Ph.D.: American social history, American women

Richard B. Ford, Ph.D.: African history, international development

Paul Lucas, Ph.D.: England and France before 1800; European intellectual history, 1650-1945

Drew R. McCoy, Ph.D.: colonial, revolutionary, and early national America; U.S. intellectual and political history

Ronald K. Richardson, Ph.D.: European cultural history, British history and British Empire

Stefan Tanaka, Ph.D.: Japanese history, intercultural relations

AFFILIATE AND ADJUNCT FACULTY

Michiko Y. Aoki, Ph.D.

Douglas M. Astolfi, Ph.D.

Thomas C. Barrow, Ph.D.

John C. Brown, Ph.D.

Paul Burke Jr., Ph.D.

Stuart W. Campbell, Ph.D.
Everett Fox, Ph.D.
Beverly C. Grier, Ph.D.
William A. Koelsch, Ph.D.
George M. Lane, M.A.
Marcus A. McCorison, M.S.
Zenovia A. Sochor, Ph.D.
Shelly Tenenbaum, Ph.D.
Richard P. Traina, Ph.D.

EMERITI

George A. Billias, Ph.D.
Robert F. Campbell, Ph.D.
Theodore H. Von Laue, Ph.D.

UNDERGRADUATE PROGRAM

The History Department offers a traditional major and a wide variety of elective courses for nonmajors. Within the history major students may specialize in American, European, or global history, or they may choose as their specialty one of the University's interdisciplinary concentrations such as Asian studies, international relations, Jewish studies, or women's studies.

The history major offers a broad liberal education with exposure to a variety of fields of knowledge, and vigorous training in critical thinking, in the accumulation, organization and analysis of information, and in clear and concise writing. In addition to preparation for graduate school and a teaching career in history, the history major provides an excellent background for careers in law; government; journalism; international affairs; museum, library, and archival work; and even business. With courses on every major geographical area of the world, and with conceptual approaches ranging from political and diplomatic to social, intellectual, and cultural, the Clark History Department offers a very wide range of courses.

UNDERGRADUATE MAJOR

The Major Requirements

(Note on course numbers: Two-digit courses are broad surveys especially designed for freshmen. The 100-level courses also serve as introductory surveys, but they treat a narrower range of topics in greater depth. The 200-level courses, intended for juniors and seniors, normally have heavier reading and writing requirements than lower level courses.)

- A. Students take nine history courses and any four nonhistory but related courses.
- B. Of the nine history courses,
 - 1. *One* must be a two-digit or 100-level course in one of the following four specializations that you choose as the base for your major:
 - a) In U.S. history
 - History 10, *Introduction to History and American Studies*
 - History 11, *Survey of U.S. History to 1877*
 - History 12, *Survey of U.S. History since 1877*
 - History 16, *Race and Ethnicity in American History*
 - History 20, *America and the World*
 - History 135, *U.S. Social History: 1850 to Present*
 - History 145, *U.S. History through the Novel*
 - b) In Asian history
 - History 80, *Introduction to Modern Asia*
 - History 161, *British India*
 - History 181, *Traditional China*

- History 182, *Modern China*
 - History 184, *Modern Japan: The Rise of a Great Industrial Power*
 - History 186, *East Asia and the West*
 - c) In European history,
 - History 05, *Romans and Barbarians*
 - History 70, *Our European Roots to the Renaissance and Reformation*
 - History 71, *Our European Roots from the Seventeenth Century to the Present*
 - History 74, *The World and the West*
 - History 110, *Imperial Europe*
 - History 121, *Introduction to Greek Culture, Art and Archaeology*
 - History 124, *Ethnicity and Nationalism in Modern Europe in Comparative Perspective*
 - History 157, *The Age of Nero*
 - History 158, *Modern English History*
 - History 161, *British India*
 - History 163, *Russia to 1917*
 - History 168, *The History of Capitalism*
 - d) In global history (includes Africa and Latin America)
 - History 74, *The World and the West*
 - History 60, *Africa and the World*
 - History 90, *Survey of Twentieth-century Global History*
 - History 162, *The History of the Modern Middle East*
 - History 127, *Introduction to Latin America*
 - History 177, *Latin America since 1825*
 - History 168, *The History of Capitalism*
 - History 178, *Politics and History of South Africa*
 - History 179, *Traditional Africa*
 - History 180, *Modern Africa*
2. *One* must be a two-digit or 100-level course outside of your chosen concentration,
 3. *Two* must be 200-level courses within your chosen concentration,
 4. *Two* must be 200-level courses outside of your chosen concentration,
 5. *Two* may be any history courses that you wish to take on any level,
 6. *One* must be a capstone course, usually taken in the senior year. Your capstone course should be either the departmental capstone seminar (History 295) or a course selected from one of the following: History 204, 292, or 296. In addition, seminars or proseminars in your area of concentration may be substituted as a capstone, *with permission from the department chair*. For honors majors, thesis research is considered to be the equivalent of a capstone course.

For information concerning predesigned structured concentrations (American studies, Asian studies, international development, international relations, Jewish studies, peace studies, and women's studies) see relevant sections in this catalogue.

THE HONORS PROGRAM

The honors program in history is designed to provide a challenging set of advanced courses for outstanding history majors. The program is valuable not only for would-be professional historians, but also for anyone who intends to pursue a career that requires resourcefulness and excellent analytical and writing skills.

To complete the honors program successfully, you must meet the general requirements for the major, choose a field of specialization, and earn four

honors credits as part of, or in some cases in addition to, the nine required history courses. More specifically, you will enter the program by taking a prehonors seminar or proseminar (see below). Formal admission into the honors program is contingent upon the successful completion of your prehonors seminar and upon evidence of outstanding work in your other history courses. Then, building on your work in the prehonors course, you will write an extensive research thesis (two course credits) under the supervision of your adviser. Finally, in the spring semester of your senior year, you will undertake a directed readings course (one course credit) in the general field of your thesis topic. The program will culminate with a written examination in your field of specialization and an oral defense of your thesis. The written examination and the oral defense will be conducted by your honors committee, which will include your thesis adviser and two other members of the department. If the committee judges your work to merit the distinction of honors, your transcript will state that you majored in history with honors, with high honors, or with highest honors. If the committee finds the thesis or examination unsatisfactory for honors credit, you will receive ordinary history credit for the thesis and directed readings course; your transcript will state simply that you majored in history.

THE PREHONORS SEMINAR OR PROSEMINAR

To enroll initially in the honors program, you will take one of the history seminars or proseminars designated as available for honors credit. These are courses designed to develop research, analytical, and writing skills. The major part of these courses is devoted to the writing and revising of research papers. It is expected that each full-time history faculty member will regularly offer at least one prehonors seminar or proseminar. Typically these would include courses such as History 291, *Advanced Topics in International Relations* and History 292, *Proseminar in the Writing of History*. For a more complete listing of prehonors seminars and proseminars, consult Professor Ropp, the department chair, or Professor Little, the director of the honors program.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select non-Western historical themes as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society. The Antiquarian Society provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history prior to 1876. A dozen smaller libraries in Worcester, with combined holdings of more than one million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First- and second-year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their program by taking colloquia, additional research seminars, and upper division undergraduate courses. The director of the graduate program assigns incoming graduate students to faculty advisers, who help design student programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or colleges in the Worcester Consortium.

MASTER OF ARTS

The department enrolls master's candidates and awards the degree to

students who have completed eight courses and a one-year residence requirement; either submitted two substantial research papers prepared in two seminars, which are jointly equivalent to the master's thesis, or submitted a master's thesis; and passed the required oral examination. (The department now admits part-time M.A. students, whose residency requirement is defined in terms of courses taken.)

Ph.D. candidates who have passed their preliminary examination (whether or not they will continue with a dissertation) may also receive the degree of master of arts.

CERTIFICATE OF ADVANCED GRADUATE STUDY (C.A.G.S.) IN INTERDISCIPLINARY STUDIES

An interdisciplinary Certificate of Advanced Graduate Study is cosponsored by the Departments of History, English, and Foreign Languages and Literatures and is administered by Clark's College of Professional and Continuing Education (COPACE).

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of history through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must ordinarily spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination, and write a doctoral dissertation within seven years of matriculation. (In recent years the department also has admitted part-time Ph.D. students; their residency is defined in terms of courses taken.)

Language Requirement: Students concentrating in American and British history must pass an examination in one foreign language, normally French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The department chair designates an examiner in each language, who determines if the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered in the first semester of residence and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite for the Ph.D. degree. Students normally meet this requirement in their second and third years as teaching assistants.

Fields: Soon after arriving at Clark, each student, in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally cover the full scope of American history as two fields. (The dividing line between the two American fields is negotiable between the student and the faculty members involved.) Those concentrating in non-American history normally offer one American field. Any student may include a nonhistorical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be taken for oral examination at the end of the student's first year. Prior to taking the oral, the

student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examination may, upon request, receive the master of arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, *Format Regulations for Theses, Dissertations, and Research Papers at Clark University*, which may be obtained from the thesis format adviser in the Graduate School Office.

COURSES

NOTE: Undergraduate courses are of two types: (1) survey courses designed for freshmen and sophomores, numbered with two digits or 100-199, and (2) advanced courses numbered 200-299. The latter carry no prerequisite (unless specifically noted) and are open to freshmen and sophomores as well as upperclass students without permission of the instructor. In case of doubt, students should consult their instructors. The term *proseminar* indicates courses of limited enrollment that combine reading, discussion, and written reports. The term *seminar* indicates a research course.

HISTORY DEPARTMENT COURSE LISTING BY FIELDS OF SPECIALIZATION

U.S. HISTORY

- | | |
|-----|-----------------------------------------------------------------|
| 10 | <i>Introduction to History and American Studies</i> |
| 11 | <i>Survey of U.S. History to 1877</i> |
| 12 | <i>Survey of U.S. History since 1877</i> |
| 16 | <i>Race and Ethnicity in American History</i> |
| 20 | <i>America and the World</i> |
| 135 | <i>U.S. Social History-1850 to Present</i> |
| 145 | <i>U.S. History through the Novel</i> |
| 200 | <i>America's Formative Years</i> |
| 201 | <i>Era of the American Revolution</i> |
| 202 | <i>The Early American Republic</i> |
| 203 | <i>Seminar in U.S. Urban History: Colonial - Modern Period</i> |
| 204 | <i>Interpretations of American History</i> |
| 205 | <i>History of the American West</i> |
| 206 | <i>Nineteenth-century U.S. Political History</i> |
| 208 | <i>The U.S., 1900-1945</i> |
| 209 | <i>The U.S. since 1945</i> |
| 212 | <i>U.S. Urban History</i> |
| 213 | <i>Gender and the City in the U.S.</i> |
| 214 | <i>Origins and Character of the American Civil War</i> |
| 219 | <i>History of American Women</i> |
| 221 | <i>African-American History</i> |
| 224 | <i>History of Afro-American Women</i> |
| 229 | <i>U.S. Elections and Parties 1789-1984</i> |
| 232 | <i>American Victorian Culture</i> |
| 234 | <i>Health and Disease in the American Habitat</i> |
| 237 | <i>U.S. Foreign Relations to 1914</i> |
| 238 | <i>U.S. Foreign Relations since 1914</i> |
| 239 | <i>American Constitutional Law</i> |
| 243 | <i>American Antiquarian Society Seminar in American Studies</i> |
| 245 | <i>U.S. Foreign Policy: Middle East</i> |
| 246 | <i>The History of American Higher Education</i> |

- 249.1 *Topics in American Social History*
- 249.2 *Research Seminar in American Social History*
- 291 *Advanced Topics in International Relations*

EUROPEAN HISTORY

- 05 *Romans and Barbarians*
- 30 *Europe and Its Future*
- 70 *Our European Roots: Western Civilization from the "Fall" of Rome through the Renaissance and Reformation*
- 71 *Our European Roots: Western Civilization from the Seventeenth Century to the Present*
- 74 *The World and the West*
- 110 *Imperial Europe*
- 121 *Introduction to Greek Culture, Art, and Archaeology*
- 124 *Ethnicity and Nationalism in Modern Europe in Comparative Perspective*
- 157 *The Age of Nero*
- 158 *Modern English History*
- 161 *British India*
- 163 *Russia to 1917*
- 168 *The History of Capitalism*
- 250 *The Formation of the Modern State: Group Consciousness, Individualism, and Social Organization in "Old Europe," 1550-1789*
- 251 *The Comparative Study of Revolutions: The French Revolution of 1789 and the Beginnings of Modern Revolutions*
- 252 *Nineteenth-century Europe*
- 253 *Twentieth-century Europe*
- 254 *Empire and Race in British History*
- 256 *Government and Politics of the Soviet Union*
- 257 *Europe since 1945*
- 258 *Towards Modern England*
- 259 *Modern Germany*
- 263 *Africans and Asians in European History*
- 267 *Religious Experience in the Ancient World*
- 271 *In Search of Humanity: Eighteenth-century European Values*
- 272 *In Search of Humanity: Nineteenth-century European Values*
- 273 *Modern European Culture*
- 280 *Soviet Foreign Policy*
- 292 *Proseminar on the Writing of History*
- 293 *History and Personality*
- 294 *Twentieth-century Western Culture*

JEWISH HISTORY

- 174 *The Jewish Experience*
- 262 *Jews and Christians in the Ancient World*
- 276 *Modern Jewish History and Thought*
- 277 *History of Zionism*
- 278 *The Holocaust: A Study of Genocide*

LATIN AMERICAN HISTORY

- 127 *Introduction to Latin America*
- 177 *Latin American History since 1825*

AFRICAN HISTORY

- 60 *Africa and the World*

- 178 *Politics and History of South Africa*
- 179 *The History of Traditional Africa*
- 180 *History of Modern Africa*

ASIAN HISTORY

- 80 *Introduction to Modern Asia*
- 161 *British India*
- 181 *Traditional China*
- 182 *Modern China*
- 184 *Modern Japan*
- 186 *East Asia and the West*
- 281 *The Peoples Republic of China*
- 282 *Chinese Women in Literature and Society*

INTERNATIONAL DEVELOPMENT

- 125 *Development Problems*
- 290 *Development Project Management*

INTERNATIONAL RELATIONS

- 169 *History of International Relations*
- 233 *Seminar on Arms Control*
- 245 *U.S. Foreign Policy: Middle East*
- 268 *Foreigners Perceived: Intercultural Relations through Travel Writings*
- 288 *The Atomic Bomb*
- 291 *Advanced Topics in International Relations/Seminar*

GENERAL GLOBAL HISTORY

- 90 *Survey of the Twentieth-century Global History*
- 162 *The History of the Modern Middle East*
- 168 *The History of Capitalism*
- 228 *Uses of the Past in History*
- 293 *History and Personality*

HISTORY COURSES (In numerical order)

05 ROMANS AND BARBARIANS/Lecture, Discussion

Refer to course description under Classics 005.

Mr. Burke/Offered every other year

10 INTRODUCTION TO HISTORY AND AMERICAN STUDIES/Lecture, Discussion

Introduces basic problems of historical method and interdisciplinary study as revealed in American history. The nature of history, and the individual student's connection with American social history, are examined through autobiography, family history, historic fiction, and ethnicity. Emphasis is placed on reading, discussion, and writing one's own family history. Fulfills the *historical perspective* requirement.

Mr. Ford/Offered every year

11 SURVEY OF U.S. HISTORY TO 1877/Lecture, Discussion

A general survey of American life from precolonial times to 1877. Special attention is given to general political trends, social, economic, and intellectual developments. Fulfills the *historical perspective* requirement.

Mr. McCoy/Offered every year

12 SURVEY OF U.S. HISTORY SINCE 1877/Lecture, Discussion

This course chronicles the rise of America to world power by focusing on key internal as well as foreign policy developments and conflict. The private as well as the public side of life and the diversity of Americans' experiences are highlighted. Attention is given to general political, social, economic, and intellectual developments. Fulfills the *historical perspective* requirement.

Ms. Deutsch/Offered every year

16 RACE AND ETHNICITY IN AMERICAN HISTORY/Lecture, Discussion

Explores the influence that racial and ethnic patterns have had upon the whole course of American history. In terms of race, it analyzes the impact that red, white, and black peoples have had upon American history from colonial times to the 1980s. Fulfills the *historical perspective* requirement.

Staff/Offered every year

20 AMERICA AND THE WORLD/Lecture, Discussion

This course assumes: 1) that the United States will be a world power in the year 2000 and 2) that we should, therefore, understand America's development within the context of world history. Therefore, in chronological terms, the course stresses the period since the turn of the twentieth century, when America first emerged as a world power. Among the course's themes: the expansion of Europe into an Atlantic civilization, the Atlantic revolution, America's industrial development and the rise of an American continental empire, America and the two world wars, America and the rise of the Third World, the rise of multinational corporations, the Cold War, and imperial America as a global power in the 1980s. Fulfills the *historical perspective* requirement.

Mr. Little/Offered every year

31 GREAT BOOKS OF CHINA/Lecture, Discussion

Readings, lectures, discussions, and short papers based on some of the most important philosophical, historical, and literary texts in the Chinese intellectual tradition. Fulfills the *verbal expression* requirement.

Mr. Ropp/Offered every other year

60 AFRICA AND THE WORLD/Lecture, Discussion

The course examines the historical and contemporary relationships between Africa and the rest of the world, emphasizing the two-way nature of the relationship: Africa's influence on world history and events and the influence of the world on Africa. Specifically, the course looks at: relationships between Africa and Europe, the U.S., the socialized world, the Muslim world, and the Middle East, and ends with a special focus on South Africa and the world. Fulfills the *historical perspective* requirement.

Ms. Grier/Offered every other year

70 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE "FALL" OF ROME THROUGH THE RENAISSANCE AND REFORMATION/Lecture, Discussion

Principal goal is to familiarize students from all disciplines with the basic outlines of the developments of Western society and, therefore, the character of our collective identity. For the would-be history major, a secondary goal is the presentation of varieties of historical "angles"—cultural, political and military, economic and social—and the integration of these analytical approaches into a coherent, popular narrative. The medieval period is emphasized because our modern history is rooted in it. Students are advised to take both History 70

and 71 because they are parts of a whole, but either course may be taken without the other. Fulfills the *historical perspective* requirement.
Mr. Lucas/Offered every year

71 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE SEVENTEENTH CENTURY TO THE PRESENT/Lecture, Discussion

Goal is the same as History 70. Course begins with the military revolution of the sixteenth century, the bureaucratic revolution of the seventeenth century, and the Enlightenment of the eighteenth century, and it concludes with an examination of our contemporary spiritual, material, and institutional existence in the light of our past development. Students are advised to take both History 70 and 71 because they are parts of a whole, but either course may be taken without the other. Fulfills the *historical perspective* requirement.
Mr. Lucas/Offered every year

74 THE WORLD AND THE WEST/Lecture, Discussion

This course surveys European interaction with the non-white world from the fifteenth to the twentieth century. While all dimensions of the European engagement overseas are touched upon, the course focuses on the social and cultural transformation of Europe as a result of the movements known as "expansion," "colonialism," and "imperialism." Students are required to participate in class, write a series of book reviews and complete a take-home final exam. Required readings reflect a mix of contemporary sources and modern historical works.

Mr. Richardson/Offered periodically

80 INTRODUCTION TO MODERN ASIA/Lecture

A survey of modern historical trends in India, China, Japan, Southeast Asia, and Korea. Through political biographies, literary selections, and general histories, the course compares native traditions, colonial experiences, and postcolonial developments in Asia since roughly 1800. Fulfills the *historical perspective* requirement.

Mr. Ropp or Mr. Tanaka/Offered every other year

90 SURVEY OF TWENTIETH-CENTURY GLOBAL HISTORY/Lecture, Discussion

Starting with a brief assessment of the world in 1900, the course offers historical background to the contemporary global order. It helps students view their lives within a worldwide perspective in terms of politics, economics, and culture. Each year, particular problems or issues serve as a focus for lectures and discussions. Students write several essays to integrate class reading, lectures, and discussions. Daily reading of the *New York Times* is required. Fulfills the *historical perspective* requirement.

Mr. Ford/Offered every year

110 IMPERIAL EUROPE/Lecture, Discussion

An examination of culture and society in Western Europe in the imperial age (1870-1914). Course emphasizes the cultural roots of European imperialism and the impact of world power on Europe.

Mr. Richardson/Offered periodically

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics 121.

Ms. Duncan-Groeneweg/Offered every other year

124 ETHNICITY AND NATIONALISM IN MODERN EUROPE IN COMPARATIVE PERSPECTIVE/Lecture, Discussion

Starting with ethnic divisions in Europe, the course analyzes the strongest political force in our world today—modern nationalism—specifically its appeal and nature as they have changed over the past two centuries. This course fulfills the *comparative perspective* requirement.

Mr. Borg/Offered every other year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Refer to course description under International Development 125.

Ms. Thomas-Slayter/Offered every year

127 INTRODUCTION TO LATIN AMERICA/Lecture

Refer to course description under International Development 130.

Mr. Jones/Offered every year

135 U.S. SOCIAL HISTORY-1850 TO PRESENT/Lecture, Discussion

Explores the transformation of American society following industrialization and urbanization from the middle of the nineteenth century to the present. It examines social structure, migration and immigration, and the adaptation of various groups to a complex urban-industrial society. It pays special attention to the experience of different ethnic and racial groups and to family, work, education, social mobility, and labor relations in the context of changing social institutions. Fulfills the *historical perspective* requirement.

Staff/Offered periodically

145 U.S. HISTORY THROUGH THE NOVEL/Lecture, Discussion

An examination of some of the major events and topics of U.S. history through historical novels, from the American Revolution to World War II.

Staff/Offered periodically

157 THE AGE OF NERO/Lecture, Discussion

Refer to course description under Classics 157.

Mr. Burke/Offered every other year

158 MODERN ENGLISH HISTORY/Lecture, Discussion

Introduction to the historical development of culture, polity, and society in Great Britain from the mid-nineteenth century to the present. Topics covered include the rise of industrial society, parliamentary reform, the rise of political parties, the rise of labor, the British Empire, Ireland, women and society, and Africans and Asians in Britain.

Mr. Richardson/Offered periodically

161 BRITISH INDIA/Lecture, Discussion

Through the study of cultural and historical documents as well as modern historical scholarship this course studies the nature of British rule in India in terms of the relationship between Indian and British peoples and societies over the period from the seventeenth century to the mid-twentieth century.

Mr. Richardson/Offered periodically

162 THE HISTORY OF THE MODERN MIDDLE EAST/Lecture, Discussion

This course focuses on Middle Eastern history and society from World War I to the present. Major themes include the collapse of the Ottoman Empire and the emergence of nation-states, colonial rule in the Arab world and the struggle for independence, the rise of Islamic fundamentalism, the role of women, the impact of oil, and the divisiveness of sectarianism.

Staff/Offered periodically

163 RUSSIA TO 1917

An introductory survey of Russian history from the ninth century A.D. to 1917. Coverage includes social, political, economic, and cultural themes in Russian history.

Staff/Offered periodically

168 THE HISTORY OF CAPITALISM/Lecture, Discussion

This course examines the rise and development of "capitalist" society in Europe and the Americas and its "expansion" around the world from the sixteenth century. Through close attention to the historiographical debate, we explore sources of capital accumulation and industrialization in England, continental Europe, and the United States. We also examine globalization of economic relations, the "world capitalist system," and the impact of capitalism on society and culture. We pay close attention to the various theories of capitalist development such as the classical, Marxist, neo-classical, and the development/underdevelopment school.

Mr. Richardson/Offered periodically

169 HISTORY OF INTERNATIONAL RELATIONS/Lecture, Discussion

The purpose of this course is to introduce key moments in the emergence of relations among nations in the modern world. The course examines the way nation-states, as political, social, economic and cultural units, have interacted (often violently) and attempted to create order. The course begins with the reconceptualization of socio-political relations into the nation (before and after revolutionary social movements), and then examines the changes within that unit as well as the pressures from outside its boundaries which have led to periods of imperialism, idealism, the Cold War, and recent police actions. Discussion also includes the interplay between the efforts to form an international order as defined by Europe and reactions in the non-West to that expansion. [NOTE: This course fulfills the government major requirement for Introduction to International Relations. A student may not take both History 169 and Government 169 for credit.]

Mr. Tanaka/Offered every year

174 THE JEWISH EXPERIENCE/Lecture, Discussion

A survey of the history of the Jewish community and the development of Judaism from the era of Alexander the Great (c.325 B.C.E.) to the present. This course examines the major political, religious, social, and economic trends of each period as they affected the evolving Jewish community and the development of Judaism and emphasizes elements of change and continuity as well as the interaction of the Jewish community with the larger culture/community. Fulfills the *historical perspective* requirement.

Staff/Offered every year

177 LATIN AMERICAN HISTORY SINCE 1825/Lecture, Discussion

A survey of Latin American nations from independence to the present with emphasis on the twentieth century. Major themes include the persistence of neocolonial social and economic structures, the emergence of nationalist and revolutionary movements after 1900, and U.S.-Latin American relations. Special emphasis on Mexico, Argentina, and Brazil. Fulfills the *historical perspective* requirement.

Mr. Little/Offered every other year

178 POLITICS AND HISTORY OF SOUTH AFRICA/Lecture, Discussion

Refer to course description under Government 178.

Ms. Grier/Offered every year

179 THE HISTORY OF TRADITIONAL AFRICA/Lecture, Discussion

An introduction to the history of Africa south of the Sahara. The course begins with the early civilizations of Kush, Axum, Ghana, Mali, Songhai, Benin, the Zanj, Congo, and Zimbabwe and continues through to the arrival of Europeans. Attention is given to eastern, western, and southern Africa. The approach is largely historical and anthropological. Fulfills the *historical perspective* requirement.

Mr. Ford/Offered every other year

180 HISTORY OF MODERN AFRICA/Lecture, Discussion

Introduces students to the major themes of modern African history. Begins with an orientation to precolonial Africa and then considers four main periods: (1) the imperial years, (2) the struggle for independence, (3) the 1960s as a decade of independence, (4) the 1970s and 1980s as a search for identity and development. Focus is primarily on the years since 1945. Fulfills the *historical perspective* requirement.

Mr. Ford/Offered every other year

181 TRADITIONAL CHINA/Lecture, Discussion

Focuses on Chinese life, institutions, and culture from the earliest times through the mid-nineteenth century. Creative literature, philosophical writings, and selected primary documents are used to supplement information presented in interpretive texts and lectures. Fulfills the *historical perspective* requirement.

Mr. Ropp/Offered every other year

182 MODERN CHINA/Lecture, Discussion

Introduces students to events, personalities, and concepts of particular importance for understanding China's history from the early nineteenth century to the present. Readings that present the Chinese view of events are used to supplement interpretative studies by Western scholars. Fulfills the *historical perspective* requirement.

Mr. Ropp/Offered every other year

184 MODERN JAPAN/Lecture, Discussion

A survey of Japanese political, social, economic, diplomatic, and cultural history from approximately 1800 to the present. The main theme of the course is the century-long transformation of Japan from an isolated feudal society into one of the great industrial powers of the modern world. Fulfills the *historical perspective* requirement.

Mr. Tanaka/Offered every other year

186 EAST ASIA AND THE WEST/Lecture, Discussion

A principal issue in the history of East Asia in the late nineteenth and twentieth centuries has been the renewed appearance of the West, as a geopolitical and figurative agent of change. Japan, China, Korea, and Southeast Asia handled these changes in different ways. This course examines some of the major attempts to handle those challenges, as well as the dreams of coalitions and failed alliances that emerged as a result of the conflict between the West and East Asian nations as well as among the East Asian nations themselves.

Mr. Tanaka/Offered every other year

200 AMERICA'S FORMATIVE YEARS/Lecture, Discussion

The emergence of distinctive forms of culture and society in English North America from the earliest colonial settlements to approximately 1760. A comparative regional approach, with special emphasis on New England (and

the theme of Puritanism) and the Chesapeake (and the themes of race, slavery, and freedom).

Mr. McCoy/Offered every other year

201 ERA OF THE AMERICAN REVOLUTION/Lecture, Discussion

The origins, character, and consequences of the American Revolution, from the erosion of imperial authority in the 1760s and 1770s to the Constitutional Convention of 1787. Emphasis is on the relation of ideology and political ideas to social development.

Mr. McCoy/Offered every other year

202 THE EARLY AMERICAN REPUBLIC/Lecture, Discussion

The formation and testing of the early U.S. from the adoption of the Constitution to the passing of the Revolutionary generation in the 1820s. Emphasis is on ideology, public policy, and the problem of national integration during a period of profound domestic and international upheaval. (Please note: This course number was used for a recent course titled *U.S. Constitution to America's Second War of Independence*.)

Mr. McCoy/Offered every other year

203 SEMINAR IN U.S. URBAN HISTORY: COLONIAL - MODERN PERIOD/Seminar

Examines major themes in the social, economic, geographic, and cultural development of American cities and their inhabitants from colonial origins to the present. Special attention is paid to the diversity of urban experience; the transformation of neighborhoods, ghettos, and suburbs; and the changing urban experience of work and play, private and public life.

Ms. Deutsch/Offered periodically

204 INTERPRETATIONS OF AMERICAN HISTORY/Research Seminar

Takes a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's Second War of Independence. This is a research seminar which requires the permission of the instructor.

Mr. McCoy/Offered every other year

205 HISTORY OF THE AMERICAN WEST/Lecture, Discussion

Cowboys, Indians, and goldminers; farmers, fur traders, railroad workers, and prostitutes; Chinese, Japanese, Mexican and African Americans; and men and women of the frontier all became part of the myth and history of the American West and of the nation. From gold and silver to Silicon Valley, from the Hopi to Hollywood, the course examines how the myth and history of the West were shaped by eastern dreams and how they transformed them.

Ms. Deutsch/Offered periodically

206 NINETEENTH-CENTURY U.S. POLITICAL HISTORY/Lecture, Discussion

An introduction dealing with the emergence of political parties, the Civil War and Reconstruction, the Gilded Age, third parties, Populism, and social movements, within a perspective emphasizing the shaping of modern American politics.

Staff/Offered periodically

208 THE U.S., 1900-1945/Lecture, Discussion

A survey of the U.S. from the progressive era through World War II. The course emphasizes the emergence of modern American culture, the rise of an imperial presidency, and the growth of government intervention in the economy from

Teddy Roosevelt to Franklin Roosevelt. Topics include the decline of socialism, the impact of war on American society, and the persistence of racial and ethnic conflict.

Mr. Little/Offered every other year

209 THE U.S. SINCE 1945/Lecture

A survey of U.S. political, social, and cultural history from Hiroshima to Watergate. The course focuses on the growth of an affluent society, the emergence of an imperial foreign policy, and the rise of the military-industrial complex. Major topics include anticommunism at home and abroad, the impact of the mass media on postwar American culture, the civil rights revolution, the Vietnamese War, and the continuing impact of "the sixties."

Mr. Little/Offered every other year

212 U.S. URBAN HISTORY/Lecture, Discussion

Examines major themes in the social, economic, and cultural development of American urban society from colonial origins to the present. The course focuses on the process of urbanization and on the adaptation of various social groups and classes to urban life and to the complexity of urban society. It also examines the transformation of urban neighborhoods and ghettos, social reform movements in the city, and urban planning.

Staff/Offered periodically

213 GENDER AND THE CITY IN THE U.S./Discussion, Research

Focussing on the nineteenth and twentieth centuries, the course examines where urban life for men and women diverged and where it met. Readings on men, women, and urban space, reform movements, utopian ideals, and other topics are followed by student research projects using local resources.

Ms. Deutsch/Offered periodically

214 ORIGINS AND CHARACTER OF THE AMERICAN CIVIL WAR/Lecture, Discussion

An examination of the events and trends that precipitated the greatest crisis in American history, the Civil War of 1861-65. Includes consideration of the behavior and experience of Americans during the war itself.

Mr. McCoy/Offered every other year

219 HISTORY OF AMERICAN WOMEN/Lecture, Discussion

This course examines the female experience in the United States, focussing on issues of power, race, ethnicity, and class, and on concepts of work, family, and gender, with their ramifications for the world of both sexes. Fulfills the *historical perspective* requirement.

Ms. Deutsch/Offered every year

221 AFRICAN/AMERICAN HISTORY/Lecture, Discussion

Examines the historical experience of blacks in America, especially from the Civil War to the present. The course focuses on the impact of racism on blacks, and on their many achievements despite the numerous obstacles in their path. Fulfills the *historical perspective* requirement.

Staff/Offered periodically

224 HISTORY OF AFRO-AMERICAN WOMEN/Seminar

The course examines the historical experience of Afro-American women from the period of slavery to the present time. Particular attention is paid to the black women's role in the economy and in politics, to resistance to racial and sexual oppression, and to the historical relationship to white women's movements.

Comparisons and contrasts are made between black women in the U.S. and black women in the Caribbean and South Africa.

Ms. Grier/Offered every other year

228 USES OF THE PAST IN HISTORY/Proseminar

This course examines the different ways that the past has been employed to construct various historical notions. The past is considered as a constantly changing archive from which notions of contemporary society are constructed. Readings and discussion focus on the different artifacts, such as symbolic forms, relics, and writings that are used to remind us of the past, and on the way that their selection and presentation impart particular ideals. (Please note: The number for this course was used recently for a course titled *Right-Wing Movements*.)

Mr. Tanaka/Offered every other year

229 U.S. ELECTIONS AND PARTIES 1789-1984/Lecture, Discussion

A broad survey of American politics from the early national period to the elections of 1980 and 1984. Shifting voter coalitions, social movements, and social group behavior are emphasized, as well as different political systems and cultures from the past to the present.

Staff/Offered periodically

232 AMERICAN VICTORIAN CULTURE/Seminar

Selected topics in American cultural history from 1815 to about 1900; methods and sources in cultural history. Approximately half the course is spent in oral reports and discussion of recent "model" or seminal works; the remaining weeks are spent in intensive research and the writing of an article-length paper.

Mr. Koelsch/Offered every year

233 SEMINAR ON ARMS CONTROL

Refer to course description under Government 234.

Mr. Lane/Offered every other year

234 HEALTH AND DISEASE IN THE AMERICAN HABITAT/Discussion

Refer to course description under Geography 234.

Mr. Koelsch/Offered every other year

237 U.S. FOREIGN RELATIONS TO 1914/Lecture, Discussion

Studies the creation of an American continental empire from the Revolution to the Spanish-American War. The course emphasizes the role of the main policy makers (Franklin through McKinley) in shaping American territorial and commercial expansion. Major themes include diplomacy and the making of the U.S. Constitution, the influence of sectional conflict on antebellum foreign policy, and the economic aspects of American expansion after the Civil War.

Mr. Little/Offered every other year

238 U.S. FOREIGN RELATIONS SINCE 1914/Lecture, Discussion

Students examine the emergence of the U.S. as a major world power in the twentieth century. The course focuses on the domestic sources of foreign policy and the assumptions of the major policy makers (Wilson through Reagan). Important themes include the American response to a revolutionary world since 1910, the increasingly dominant role of the president in the making of U.S. foreign policy, and the changing position of the U.S. in the international economy.

Mr. Little/Offered every year

239 AMERICAN CONSTITUTIONAL LAW/Lecture, Discussion

Refer to course description under Government 254.

Mr. Miller/Offered periodically

243 AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES/Seminar

Given at the American Antiquarian Society (about two miles from Clark), the course affords students an opportunity to do original research in the society's unique holdings. Students should apply in the spring through Professor Sarah Deutsch, History Department, Clark University.

American Antiquarian Society Staff/Offered every year

245 U.S. FOREIGN POLICY: MIDDLE EAST/Lecture, Discussion

Refer to course description under Government 245.

Mr. Lane/Offered periodically

246 HISTORY OF AMERICAN HIGHER EDUCATION/Seminar

After several weeks of reading and oral reports on the role of higher education in American culture—emphasizing the rise, character, and impact of the American university—members of the seminar work intensively on topics of interest to them.

Mr. Koelsch/Offered every year

249.1 TOPICS IN AMERICAN SOCIAL HISTORY/Seminar

This seminar is an intensive introduction to important works and major issues in American social history, with particular emphasis on the transformation of work and working class life, the growth of cities and their culture(s), the African-American experience, and the history of sexuality. Each student occasionally leads class discussions and writes a historiographical essay on a topic in American social history. This course requires the permission of the instructor.

Ms. Deutsch/Offered periodically

249.2 RESEARCH SEMINAR IN AMERICAN SOCIAL HISTORY/Research Seminar

In this course every student undertakes an intensive research project culminating in an article-length essay. Such research generally builds on readings done in History 249.1, but students who have not taken 249.1 may apply to take 249.2 with the permission of the instructor. This course can only be taken with the permission of the instructor.

Ms. Deutsch/Offered periodically

250 THE FORMATION OF THE MODERN STATE: GROUP CONSCIOUSNESS, INDIVIDUALISM, AND SOCIAL ORGANIZATION IN "OLD EUROPE," 1550-1789/Lecture, Discussion

An examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by militarism, absolutism, mercantilism, early capitalism, modern science, and the requirements of the international system of European states; an appreciation of the social and ideological legacies of the old regime in our own time. Six two-page papers, take-home final exam, class participation. Fulfills the *historical perspective* requirement.

Mr. Lucas/Offered every other year

251 THE COMPARATIVE STUDY OF REVOLUTIONS: THE FRENCH REVOLUTION OF 1789 AND THE BEGINNINGS OF MODERN REVOLUTIONS/Lecture, Discussion

Analysis of old and new ideas of revolution including ritual, resistance, reactionary restoration vs. innovation; the "democratic" revolution; the psychology, sociology, and social psychology of revolutionary behavior; religion and revolution; violence; and the relevance of the French Revolution to twentieth-century issues. One long paper, two exams, class participation. Fulfills the *comparative perspective* requirement.

Mr. Lucas/Offered every other year

252 NINETEENTH-CENTURY EUROPE/Lecture, Discussion

Centers around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world.

Mr. Borg/Offered every other year

253 TWENTIETH-CENTURY EUROPE/Lecture, Discussion

Concentrates on the characteristic problems of Europe in a century of war, economic convulsion, and political instability.

Mr. Borg/Offered every other year

254 EMPIRE AND RACE IN BRITISH HISTORY/Proseminar

This course explores the British encounter with non-"white" people in the outside world and in Britain itself in the context of changing British views on empire and imperialism. Its primary focus is on British involvement with Africans and Asians from the eighteenth to the mid-twentieth century. The course is particularly concerned with understanding how this experience contributed to the historical construction of a British national identity and a masculine ideal.

Mr. Richardson/Offered periodically

256 GOVERNMENT AND POLITICS OF THE SOVIET UNION/Lecture, Discussion

Refer to course description under Government 256.

Ms. Sochor/Offered every year

257 EUROPE SINCE 1945/Proseminar

Readings and discussions in modern Europe since World War II.

Students choose their readings according to their own historical interests.

Mr. Borg/Offered every other year

258 TOWARDS MODERN ENGLAND/Lecture, Discussion

Examines the formation of the peculiarities of the English "character," state, society, religions, and the world's first modern industrial economy, 1500-1850. To help students grasp these peculiarities, a special emphasis is placed on comparisons of England's experience with continental Europe's and on the use of historical psychology. Fulfills the *historical perspective* requirement.

Mr. Lucas/Offered every other year

259 MODERN GERMANY/Lecture, Discussion

An examination of the convulsive course of German history over the past century: unification under Bismarck, the Second Empire, the First World War, the Weimar Republic, the Third Reich, the Second World War, divided postwar Germany, and reunification. Fulfills the *historical perspective* requirement.

Mr. Borg/Offered every other year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics 262.

Mr. Burke/Offered every other year

263 AFRICANS AND ASIANS IN EUROPEAN HISTORY/Lecture, Discussion

This course investigates the ways in which European culture affected the European experience with Africans and Indians, as well as the impact of that experience on European culture in the period from the Enlightenment to the twentieth century. Includes the study of key thinkers such as John Locke, Charles Darwin, and Joseph Conrad whose ideas allow access to the racial thought worlds of their societies; works on European racial attitudes such as Philip Curtin's *The Image of Africa*; and selections from African and Asian critics of European culture and rule like Edward Wilmot Blyden and Mahatma Gandhi. Course requirements include participation in class discussion and a series of short critical papers.

Mr. Richardson/Offered periodically

267 RELIGIOUS EXPERIENCE IN THE ANCIENT WORLD

Refer to course description under Classics 267.

Mr. Burke/Offered every other year

268 FOREIGNERS PERCEIVED: INTERCULTURAL RELATIONS THROUGH TRAVEL WRITINGS/Proseminar

The purpose of this course is to explore through travel writings the ways that peoples conceptualize the foreign. For centuries travellers have been writing about different cultures; in these writings they not only describe their outside, but they also set up boundaries between us and them, and define the "exotic." This notion of the "exotic" will be the principal problem of the course. Issues to be discussed are the ways by which intellectual boundaries are established between societies, the meaning and import of the categories created by those boundaries, the mutual dependence on those notions, and the ways that such categories affect relations among different cultures.

Mr. Tanaka/Offered periodically

271 IN SEARCH OF HUMANITY: EIGHTEENTH-CENTURY EUROPEAN VALUES/Lecture, Discussion

Examines the Enlightenment and its heirs and critics: the scientific revolution, philosophical reformism, and early conservative romanticism. Emphasis on rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduce the student to various approaches to intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny. Four two-page papers, final examination, class participation. Fulfills the *values perspective* requirement.

Mr. Lucas/Offered every other year

272 IN SEARCH OF HUMANITY: NINETEENTH-CENTURY EUROPEAN VALUES/Lecture, Discussion

Examines the elaboration of the Enlightenment by its heirs and critics. Emphasis is same as in 271, but focus shifts to an analysis of political and economic liberalism, social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatisms, and the reassessment of the values and progress of European civilization among principally Italian and German thinkers.

Approximately four two-page papers; final examination, class participation. Fulfills the *values perspective* requirement.

Mr. Lucas/Offered every other year

273 MODERN EUROPEAN CULTURE/Lecture, Discussion

Introduction to the study of European cultural/intellectual history (late nineteenth century-twentieth century) through investigation of seminal topics such as evolutionary thought, classical social and economic theory, the self, modernism, gender, and race. Sources include literature, theory, art, film, and modern historical work.

Mr. Richardson/Offered every year

276 MODERN JEWISH HISTORY AND THOUGHT/Lecture, Discussion

Discusses the emergence of the Jew into modern society after the French Revolution. The political and ideological struggle over emancipation and adjustment are traced through the growth of Jewish denominationalism in Western Europe. The competing ideologies of Jewish nationalism (including those of both Zionist and non-Zionist character) are discussed in the context of Eastern European Jewry and its unique contribution to modern Jewish identity. The course concludes with an examination of the Weimar Republic in Germany (1918-1933) and the independent Polish State (1918-1939).

Staff/Offered every other year

277 HISTORY OF ZIONISM/Lecture, Discussion

Examines the development of Zionist ideologies and the emergence of Zionism as a political movement in response to the events of nineteenth- and twentieth-century Europe and the Middle East. Attention is also paid to the political and social history of the state of Israel and to the Arab-Israeli conflict.

Staff/Offered every other year

278 THE HOLOCAUST: A STUDY OF GENOCIDE/Lecture, Discussion

Refer to course description under Sociology 204.

Ms. Tenenbaum/Offered every year

280 SOVIET FOREIGN POLICY/Lecture, Discussion

Refer to course description under Government 280.

Ms. Sochor/Offered every other year

281 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

A general survey of life in the People's Republic of China from 1949 to the present. Includes a general history of the People's Republic, and special attention to such themes as politics, society, family life, economics, foreign relations, literature, and the arts.

Mr. Ropp/Offered every other year

282 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Examines the changing role of women in Chinese society from the seventeenth century to the present, primarily through the reading and discussion of Chinese literature in English translation.

Mr. Ropp/Offered every other year

288 THE ATOMIC BOMB/Proseminar

Through readings and discussion, this course explores the different ways that the bomb has affected modern life. Includes the development of atomic weapons, the decision to use the bomb in 1945, the place of Hiroshima in post-

war Japan, and the role of atomic weaponry in the contemporary arena of international relations.

Mr. Tanaka/Offered every other year

290 DEVELOPMENT PROJECT MANAGEMENT/Seminar

Refer to course description under International Development 290.

Mr. Ford/Offered every year

291 ADVANCED TOPICS IN INTERNATIONAL RELATIONS/Seminar

Substantive content of this course varies with the interests of the instructor. Possible topics include issues in international development, multinational corporations, the new international economic order, or issues in U.S. foreign policy. The course is designed principally for advanced students concentrating in international relations. Other students may be admitted by permission of the instructor.

Mr. Little/Offered every year

292 PROSEMINAR ON THE WRITING OF HISTORY

This course attempts to teach students how to write analytical and synthetic research papers and how to write them well. It introduces students to problems of studying history by learning about the aspirations, advantages, and disadvantages of "historicism." Open to all, but permission of instructor is required. Three papers, each rewritten once, and class participation.

Mr. Lucas/Offered periodically

293 HISTORY AND PERSONALITY/Proseminar

Through readings and discussions the seminar investigates the relationship between select "great" personalities of the twentieth century and history. We consider the role of personality in "shaping" events; modern notions of the self; and the mythic functions of the "great" personality.

Mr. Richardson/Offered periodically

294 TWENTIETH-CENTURY WESTERN CULTURE/Proseminar

An intensive study of aspects of culture and thought in the twentieth-century West. Topics covered include modernism, psychoanalysis and behavioral science, structuralism, deconstruction, feminism, race, and popular culture.

Mr. Richardson /Offered periodically

295 CAPSTONE/Proseminar, Discussion

Readings and discussions in the history of the idea of history from Thucydides until the present.

Mr. Borg, Staff/Offered every year

299.1 DIRECTED READINGS/Tutorial

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor. Prerequisite: permission of instructor. Offered for variable credit.

Staff

299.2 RESEARCH PROJECTS/Tutorial

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. Prerequisite: permission of instructor. Offered for variable credit.

Staff

DEPARTMENTAL HONORS

299.8 HONORS THESIS RESEARCH

Honors students receive up to two credits for thesis research. Honors students preparing for the comprehensive exam receive credit for their reading under History 299.1. Offered for variable credit.

Staff/Offered every year

299.9 INTERNSHIP

The student who undertakes an interdisciplinary internship for more than two credits may receive up to two credits in history and the remainder in another department. Prerequisite: permission of instructor and of chair. Offered for variable credit.

Staff

GRADUATE COURSES

301 STUDIES IN EIGHTEENTH-CENTURY AMERICAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. McCoy

303 SEMINAR IN U.S. URBAN HISTORY/Seminar

Refer to course description under History 203.

Ms. Deutsch/Offered periodically

304 INTERPRETATIONS OF AMERICAN HISTORY/Research Seminar

Refer to course description under History 204.

Mr. McCoy/Offered every other year

313 GENDER AND THE CITY IN THE U.S./Discussion, Research

Refer to course description under History 213.

Ms. Deutsch/Offered periodically

315 STUDIES IN ECONOMIC HISTORY/Tutorial

Independent studies. Offered for variable credit.

Staff

332 AMERICAN VICTORIAN CULTURE/Seminar

Refer to course description under History 232.

Mr. Koelsch/Offered every year

335 STUDIES IN NINETEENTH-CENTURY U.S. HISTORY/Tutorial

Independent studies. Offered for variable credit.

Staff

337 STUDIES IN DIPLOMATIC HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Little

341 STUDIES IN AMERICAN THOUGHT AND CULTURE/Tutorial

Independent studies. Offered for variable credit.

Mr. Koelsch, Staff

344 STUDIES IN RECENT AMERICAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Little, Staff

349.1 TOPICS IN AMERICAN SOCIAL HISTORY/Seminar

Refer to course description under History 249.1.

Ms. Deutsch/Offered periodically

349.2 RESEARCH SEMINAR IN AMERICAN SOCIAL HISTORY/Research Seminar

Refer to course description under History 249.2.

Ms. Deutsch/Offered periodically

350 STUDIES IN EARLY MODERN EUROPEAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Lucas

351 STUDIES IN EUROPEAN INTELLECTUAL HISTORY/Tutorial

Independent studies. Offered for variable credit. Papers and discussion.

Mr. Lucas or Mr. Richardson

352 STUDIES IN MODERN EUROPEAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Borg

353 STUDIES IN MODERN BRITISH HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Richardson

354 STUDIES IN MODERN CULTURAL/INTELLECTUAL HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Richardson

355 STUDIES ON IMPERIALISM/Tutorial

Independent studies. Offered for variable credit.

Mr. Richardson

380 STUDIES IN AFRICAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Ford

383 STUDIES IN CHINESE HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Ropp

384 STUDIES IN JAPANESE HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Tanaka

395 PRACTICUM IN THE TEACHING OF HISTORY

Offered for variable credit.

Mr. Ford, Staff

399 GRADUATE READINGS

Offered for variable credit.

Staff

International Development and Social Change

PROGRAM FACULTY

- Barbara P. Thomas-Slayter, Ph.D., *director, International Development Program*: local institutions and organizations, women and public policy, peasant behavior
- Richard B. Ford, Ph.D., *director, International Development Research*: African history, resource management and international development
- Stanford Hagopian-Gerber, Ph.D.: Caribbean politics, migration, family, development of small islands
- Jeffrey Jones, Ph.D.: Central America, small farmer behavior, forestry resource management, agricultural development
- Harry Schwarz, B.C.E., P.E.: resource management, water resources, environmental impact of development
- Ann Seidman, Ph.D.: regional economics, African development, project analysis, development theory

ADJUNCT FACULTY

- Hussein Adam, Ph.D.: African politics, political theory, nongovernmental organization
- Robert Bradbury, Ph.D.: health planning, health systems analysis, health administration
- J. Ronald Eastman, Ph.D.: cartography, geographic information systems
- Jacque L. Emel, Ph.D.: resource management, political geography, hydrology
- Cynthia Enloe, Ph.D.: women and politics, militarization, Asian politics, British politics, ethnic and racial politics
- Beverly C. Grier, Ph.D.: African politics, international development, women's studies, and U.S. black politics
- Susan Hanson, Ph.D.: urban/social geography, transportation, research methods, geography and gender
- Robert C. Hsu, Ph.D.: economic development, comparative economic systems, international economics
- Douglas L. Johnson, Ph.D.: cultural ecology, arid lands management
- Gerald J. Karaska, Ph.D.: regional economic development
- Roger Kasperson, Ph.D.: hazards, environment and society, global change
- Dorothy Kaufmann, Ph.D.: language and culture in the French-speaking world
- Laurence A. Lewis, Ph.D.: geomorphology, tropical agriculture and environment
- Mohammed Ansari Nawawi, Ph.D.: political theory, Asian development, Third World politics
- Richard Peet, Ph.D.: political economy, Marxist geography
- Frank Puffer, Ph.D.: regional economics, African economic development, health economics
- Dianne Rocheleau, Ph.D.: human/political/systems ecology, Third World forestry and agriculture
- Paul S. Ropp, Ph.D.: Asian history, comparative history
- Zenovia A. Sochor, Ph.D.: Soviet Union, comparative politics, foreign policy
- Henry J. Steward, Ph.D.: cartography, remote sensing
- Stefan Tanaka, Ph.D.: Japanese history, intercultural relations
- B.L. Turner II, Ph.D.: cultural/human ecology, global change, Third World agriculture

PROGRAM

International Development and Social Change (ID) is an interdisciplinary program with teaching, training, and research components. It offers the M.A. degree, a B.A. major and an accelerated five-year B.A./M.A. program. ID was founded in the mid-1970s as a cross-disciplinary effort among the Graduate School of Geography; the Environmental Affairs Program; and the Departments of Government, Economics, and History. Subsequently this interdisciplinary approach has been enhanced by the incorporation of anthropology, programmatic collaboration with the Graduate School of Management, and the establishment of the Center for Technology, Environment, and Development (CENTED) of which ID is a founding partner.

The teaching program is designed to introduce students to the complex issues involved in international development, acquaint them with a range of research activities, and prepare them for careers and participation in international fields. It attempts to orient majors to the changing world in which we live and to the increasing role developing societies play in the interdependence of the world's social, economic, and political systems. The program offers nonmajors an opportunity to participate in its courses, seminars, or other international development activities. Undergraduates are encouraged to work out a double major with ID and one of the cooperating departments.

Majors are expected to acquire basic skills of economic and social analysis as well as a generalized orientation toward development and social change. These skills and attitudes are useful for any number of careers in either the private or the public sector that deal with developing areas of the world and relations between North and South. They are also relevant to further graduate study and specialization. To attain these skills, students in the program work in a combined graduate-undergraduate setting, which blends the breadth of liberal arts with the specialization of professional training. Thus, the curriculum includes existing departmental courses, new cross-disciplinary courses, and applied research. Students also participate in seminars, symposia, internships, and summer research activities.

The research program offers faculty and students opportunities to work individually and cooperatively on topics of concern relating to international development and social change. Recent research projects have included:

- analyzing agro-forestry and resettlement patterns in Costa Rica
- developing a national environmental monitoring system in collaboration with Sudan's Institute of Environmental Study,
- assessing household and community responses to resource problems in several African countries,
- investigating the roles of women in local institutions managing resources in Africa, Asia and Central America
- developing a plan to use geographic information systems in assessing land use problems on the perimeter of Nakuru National Park in Kenya.
- analyzing patterns of land use and deforestation in Honduras, and
- working with the National Environment and Human Settlement Secretariat in Kenya to implement Participatory Rural Appraisals in Kenyan villages.

In all our research, we are concerned not only with the relationship among technological intervention, finite resources, and social change in the developing world, but also with relationships between poor and more affluent nations. We also emphasize collaborative research with other institutions.

The Program for International Development and Social Change is flexible, permitting students to participate in designing their own interdisciplinary curriculum for the study of development problems. It aims to meet the needs of three different groups of students:

First, it is one of the few programs in the United States that offers a liberal

arts B.A. degree focused on development. Students may major in international development or they may take international development as a double major in conjunction with a related discipline such as geography, economics, government, or sociology.

Second, it provides an opportunity for undergraduates qualified to go on in the program to complete a five-year B.A./M.A. degree with a view to a career in the development field.

Third, it provides a self-contained program for students coming from other universities who want to obtain the necessary background and complete an M.A. in order to pursue a career in the development field.

UNDERGRADUATE PROGRAM

Undergraduates majoring in international development are expected to:

1. attain an understanding of the development process and its political, economic, historical, theoretical, and environmental aspects;
2. master basic skills including quantitative skills and techniques of economic and social analysis, and are strongly encouraged to develop competence in a foreign language;
3. develop an investigative/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience; and
4. pursue a career track—for example, resource management or women in development—chosen in consultation with a faculty advisor.

Course Requirements for Majors

1. *Basic orientation:* Majors must take the introductory course ID 125, *Development Problems*; a course in development economics or economic case studies; three additional core courses in politics, resource management, and sociocultural issues; and Economics 10 and 11, *Issues and Perspectives* and *Principles of Economics*. Students transferring from other majors or universities may substitute equivalent courses.
2. *Area of specialization:* Majors will take at least four courses in an area of specialization they select in consultation with an ID faculty advisor. Students may follow the pattern set out in one of several established tracks—for example, resource management, rural development, anthropology, ethnicity and nationality, or women and development. A student may prefer to design a course sequence, subject to approval by an appropriate faculty member, that creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for students to link their interest in development with a focus in a specialized field.
3. *Skill courses:* Majors must take a course in social sciences research methods and two courses from the following: computer science, statistics, or cartography. They are also encouraged, in consultation with a faculty advisor, to develop a language proficiency relevant to their chosen development area.

MASTER'S PROGRAM

The Master's Program in International Development affords the graduate student the opportunity to work closely with faculty members from a broad range of disciplines. The program allows the student a large degree of flexibility in terms of thesis research while emphasizing a core of required classes designed to develop the student's quantitative, analytical, and research skills. All ID graduate students must take a course in each of the following areas: development theory, project analysis and management, and research methods. Class work or demonstrated competence is also required in two of the following

skills: statistics, computer science, remote sensing, or language relevant to a student's field work at an intermediate level of proficiency. A minimum of eight course units is necessary for the M.A. degree. There are also opportunities for internships with development agencies in the United States, and the program facilitates opportunities for students to have internships overseas.

Students are encouraged to develop their own fields of specialization in preparation for thesis research, which should be undertaken in the second year of study. Specializations that have been selected by graduate students include women and development, resource management, development theory, rural development, international political economy, household economic behavior, local organization and participation, and comparative ethnic relations. The thesis is normally completed in the third or fourth semester and may include field research.

COURSES

015 INTRODUCTION TO ECONOMIC GEOGRAPHY/Lecture

Theories about the geography of the production of human existence out of nature are presented. The course emphasizes contemporary economic, social, and environmental problems. These include overpopulation, environmental crises, world food problems, uneven economic development, the spatial movement of industry and jobs, and regional decline and unemployment. The course concludes by discussing the disappearance of unique regional economies and cultures and the emergence of a world capitalist economy, culture, and consciousness.

Mr. Karaska, Staff/Offered every year

027 GEOGRAPHY OF THE THIRD WORLD/Lecture, Discussion

Introduces students to the geo-history of the Third World through a "mode of production" analysis of the relations between the Europeans and the people of Latin America, Africa, and Asia. Each year a particular Third World problem is identified and analyzed—environment, hunger, economic development, and cultural imperialism are examples. The course is suited to students with little background or knowledge of the Third World but with a thirst to understand the conditions of existence of the majority of the world's people, and a commitment to changing those conditions.

Mr. Peet/Offered every year

037 GENDER, SPACE, AND ENVIRONMENT/Lecture, Discussion

Students explore how gender is reflected in the landscape, in our settlement and land use patterns, in environmental history, and in our present ecological science and practice from the global to the local level. The class combines lectures, readings, discussions, films, and local field trips. We review feminist and other alternative explanations of the gendered nature of knowledge, access, use, and control of space and resources in a variety of environments, past, present, and possible.

Ms. Rocheleau/Offered every year

090 SURVEY OF TWENTIETH-CENTURY GLOBAL HISTORY/Lecture, Discussion

Starting with a brief assessment of the world in 1900, the course offers historical background to the contemporary global order. It helps students view their lives within a worldwide perspective in terms of politics, economics, and culture. Each year, particular problems or issues serve as a focus for lectures and discussions. Students write several essays to integrate class reading,

lectures, and discussions. Daily reading of the *New York Times* is required. Fulfills the *historical perspective* requirement.

Mr. Ford, Mr. Astolfi/Offered every year

108 WORLD POPULATION/Lecture

Is the population of our world growing too fast? Will overpopulation lead to doomsday? To address these questions requires an understanding of the nature of population growth and sociocultural responses to it. This course develops an understanding of this relationship through a mix of demography and population geography. World patterns of population distribution, history, and dynamics are explored, and the future of population problems is addressed.

Mr. Turner, Mr. Johnson/Offered periodically

117 REVOLUTION AND POLITICAL VIOLENCE/Lecture, Discussion

This course analyzes the concept, the causes, and the process of revolution. The course explores the distinctions between revolution and other forms of political violence such as terrorism, rebellion, and coups. It also reviews general theories of revolution in order to gain some appreciation of the difficulties, peculiarities, and goals of specific revolutionary movements. The course focuses on the Russian and Chinese revolutions as twentieth-century prototypes; it then draws comparisons to recent revolutions in the Middle East and Latin America.

Ms. Sochor/Offered every other year

120 INTRODUCTION TO SOCIAL ANTHROPOLOGY/Lecture, Discussion

Analysis of human society and culture, especially in the context of development. The epistemological, environmental, and social bases of culture are reviewed to understand the significance of global economic changes and their implications for human cultural diversity. The underlying question addressed is "How can an anthropological perspective inform questions of social change in an interdependent world?" Class materials are drawn from countries in Latin America, the Caribbean, Africa and the Middle East.

Mr. Jones, Mr. Hagopian-Gerber/Offered every year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Introduces students to the major issues and debates in the field of international development, by addressing a variety of concerns including colonialism, development and underdevelopment, the relationship between arms expenditures and development, growth and equity issues, trade, aid, the impact of development processes on women, North-South relations, emergence of class, and political ideologies. The class focuses on specific problems of food, population, and resources. Case materials are drawn from a number of countries including India, China, Kenya, Tanzania, Mexico, Brazil, and Bangladesh.

Ms. Thomas-Slayter/Offered every year

127 POLITICAL ECONOMY OF UNDERDEVELOPMENT/Lecture

Do conventional explanations of underdevelopment strike you as false and unconvincing? A powerful and refreshing alternative perspective exists in Marxist and neo-Marxist theories of social change. This course reviews the main currents within this rich stream including theories of dependency, imperialism, accumulation world systems, unequal exchange, and mode of production. Marxist concepts are used to examine the international role of capital, multinational corporations, and regional decline. Finally, the course presents alternative models of socialist development.

Mr. Peet/Offered every year

128 THE FAMILY AND SEX ROLES IN CROSS-CULTURAL PERSPECTIVE: AN ANTHROPOLOGICAL APPROACH/Lecture, Discussion

This course concerns itself with family organization and gender roles in traditional and modern societies. Topics explored include the various ways the family is structured; the socialization process for males and females; the changing role of males and females in comparative perspective; the nature and function of kinship systems; the extended family; anthropological and biological views concerning the nature of male and female roles; the functions of the women's liberation movement with respect to child rearing; and the effects of the women's liberation movement on males, females, and the economic process. Some time is spent discussing the changing role of elders within modern industrial states and the role of elders in traditional and primitive societies. These and other topics are viewed in comparative perspective. Countries and regions examined include the Middle East, Africa, the Soviet Union, the Pacific, and the United States. Course requirements include two examinations and one moderately long research paper to be decided on after discussion with the instructor. Some films are screened, and guest speakers present varying views to the class.

Mr. Hagopian-Gerber/Offered every year

130 INTRODUCTION TO LATIN AMERICA/Lecture

This course develops an understanding of contemporary Latin America through the consideration of particular social and economic conditions of the region. The role of the Spanish conquest, the Catholic church, and associated political theories are evaluated. Special attention is given to economic development ideas of the UN Economic Commission for Latin America, such as Import Substitution Industrialization, and how they have affected the region. The course also reviews the impact of emerging concerns with the effect of the "informal economy" on Latin American national development.

Mr. Jones/Offered every year

136 SUB-SAHARAN AFRICA: ISSUES AND PROBLEMS/Lecture, Discussion

Explores issues and problems confronting sub-Saharan Africa, including the legacy of colonialism, establishment of nation-states, changing production systems, the roles of women in existing economic structures, the emergence of class, strategies for socioeconomic change, and regional conflict particularly in the Horn and Southern Africa. Readings include contemporary literature, public documents, journals and newspapers, and secondary sources. Illustrative material is drawn selectively from East, West, and Southern Africa.

Ms. Thomas-Slayter, Ms. Grier/Offered every other year

139 COUNTRY AND CULTURE/Lecture

The landscape can be read! Be it a vast tropical rainforest with an occasional clearing or an intensively cultivated river valley in New England, the rural landscape is the product of interaction between place (environment) and people (culture). This course traces the evolution of rural landscapes through time from early hunter-gatherers to modern suburban encroachment on rural areas. Emphasis is placed on ecological principles that help explain the technocultural modification of rural places.

Mr. Johnson/Offered every other year

144 COMPARATIVE RACE AND ETHNIC RELATIONS/Lecture

Both race and ethnicity have played and still play a vital role in local, national, and international affairs. For example, to understand the problems of the Middle East, it is vital to understand the role that ethnicity plays in local life,

attitudes toward other people, and politics. This course enables students to understand and appreciate the nature of immigration, the experiences that migrants encounter in a new location, and the problems that migrants face. It is also hoped that students will get a better appreciation of their own historical and cultural backgrounds. Guest lecturers present material dealing with the Middle East, Africa, Latin America and the Caribbean.

Mr. Hagopian-Gerber/Offered every year

147 WORLD FOOD PRODUCTION/Lecture, Discussion

This course reviews how recurrent food crises have inspired a variety of strategies on the part of national governments and international agencies to alleviate world hunger. The role of private voluntary and charitable agencies is considered from both a positive and negative perspective. Are humans caught in an inevitable Malthusian trap? Or are there methods for resolving the problem of food shortages in the world? A variety of explanations for the origins of and solutions to food shortage are reviewed and incorporated into strategies of planning for national food security.

Mr. Jones, Mr. Ford/Offered every other year

158 THE FRENCH-SPEAKING WORLD/Seminar

An interdisciplinary analysis of the problematic role of the French language and the culture it represents in various parts of the world, with emphasis on Quebec, the Antilles, Algeria, and French-speaking Africa. Through literature, social texts, and film, we explore such issues as bilingual colonialism, the question of *negritude*, the origins and legacy of the Algerian war, and conflicts between traditional and modern social codes. Prerequisite: one third-year level French course, or permission of instructor.

Ms. Kaufmann/Offered every other year

169 INTRODUCTION TO INTERNATIONAL RELATIONS/Lecture

Refer to course description under Government 169.

Mr. Vogele/Offered every year

175 CULTURAL ECOLOGY IN ARID LANDS/Lecture, Discussion

Drylands are risky and often inhospitable places in which to live. Yet people choose to occupy such places and to wrest a living from sparse and scattered resources. Those farmers, herders, hunters, and urban dwellers who are successful have coping strategies for dealing with drought, desertification, and environmental change. Comparison of these strategies in both developing and industrialized societies identifies obstacles to and opportunities for successful management of drylands in support of a growing population.

Mr. Johnson/Offered periodically

176 COMPARATIVE ECONOMIC SYSTEMS/Lecture

Examines the theory and practice of selective cases of capitalism, market socialism, and centrally planned socialism. Major topics include the welfare state and industrial democracy of Sweden, industrial policy and corporate groupings in Japan, workers' self-management in Yugoslavia, problems of centrally planned socialism, and the dilemmas of socialist reforms in Hungary and the Soviet Union.

Mr. Hsu/Offered every year

177 CHINESE AND JAPANESE ECONOMIES/Lecture

A comprehensive survey of the Chinese and Japanese economies—their development, institutions, and policies. Topics include historical background,

agricultural development, industrial organization and development, fiscal and monetary policies, employment and labor, Sino-Japanese relations, and relations with the U.S.

Mr. Hsu/Offered every other year

178 POLITICS AND HISTORY OF SOUTH AFRICA/Lecture, Discussion

The aim of the course is to acquaint students with the forces that have shaped the political system in South Africa today. The structure of the economy (mining, agriculture, and industry) is examined with particular attention paid to the role of black labor. The rise and consolidation of Afrikaner nationalism, the introduction and implementation of apartheid, the struggle of blacks against apartheid and growing rural and urban poverty, and South Africa's policy toward neighboring African countries are among the topics discussed. The economic and political role played by American investment in South Africa is explored, as is official U.S. policy toward the country.

Ms. Grier/Offered every year

179 THE HISTORY OF TRADITIONAL AFRICA/Lecture, Discussion

An introduction to the history of Africa south of the Sahara. The course begins with the early civilizations of Kush, Axum, Ghana, Mali, Songhai, Benin, the Zanj, Congo, and Zimbabwe, and continues through to the arrival of Europeans. Attention is given to eastern, western, and southern Africa. The approach is largely historical and anthropological. Fulfills the *historical perspective* requirement.

Mr. Ford/Offered every other year

180 HISTORY OF MODERN AFRICA/Lecture, Discussion

Introduces students to the major themes of modern African history. Begins with an orientation to precolonial Africa and then considers four main periods: (1) the imperial years, (2) the struggle for independence, (3) the 1960s as a decade of independence, (4) the 1970s and 1980s as a search for identity and development. Focus is primarily on the years since 1945. Fulfills the *historical perspective* requirement.

Mr. Ford/Offered every other year

182 POLITICS, PEOPLE, AND POLLUTION/Lecture, Discussion

Environmental problems and issues arise from economic development processes in both industrialized and developing countries. What are the facts and what are the myths in a consideration of environment and development? How do we establish policies for dealing with these problems? What are the processes by which governments make decisions addressing complex environmental/development issues here and in distant parts of the world? This course offers students an opportunity to examine the relations between environment and development in the context of developing and industrialized societies.

Ms. Thomas-Slayter, Mr. Schwarz/Offered periodically

183 MODERN CHINA/Lecture, Discussion

Introduces students to events, personalities, and concepts of particular importance for understanding China's history from the early nineteenth century to the present. Readings that present the Chinese view of events will be used to supplement interpretative studies by Western scholars. Fulfills the *historical perspective* requirement.

Mr. Ropp/Offered every other year

189 REMOTE SENSING OF THE ENVIRONMENT/Lecture, Laboratory

Offers a broad introduction to one of the most powerful tools now being

developed for surveying geographical phenomena. It covers the use of remotely sensed data such as air photos and a variety of satellite imagery to provide answers to many of the problems about our physical and human environment. Mr. Steward/Offered every year

207 POLITICS AND DEVELOPMENT: CENTRAL AMERICA AND SOUTHERN AFRICA/Lecture, Discussion

The course examines the theoretical debates surrounding concepts such as development, modernization, underdevelopment, and dependency. It looks in some detail at the politics of development in two countries: one in Central America and one in Southern Africa. The roles of political parties, the bureaucracy, the military, the extremes of wealth and poverty, and the impact of global economic and political forces on these countries are examined.

Ms. Grier/Offered every year

211 GEOMORPHOLOGY OF HUMID TROPICS/Lecture, Discussion

The humid tropics—home of rainforest, dry forest, and savanna, are areas of special interest to physical geographers. Deep weathering of rocks, rapid soil erosion when the forest or grasses are removed, great rivers in the tropics, and the devastating impact of human intervention are among the topics explored. Prerequisite: Geography 114, Geology 114, or permission of the instructor.

Mr. Lewis/Offered every other year

212 WOMEN AND SOCIAL CHANGE/Seminar

Examines the central assumptions and theories about the status and roles of women from multidisciplinary, cross-national and cross-cultural perspectives, emphasizing the Third World. Explores issues pertaining to the division of labor between the sexes; relationships among class, gender, and ethnicity; the household economy; women's roles in economic development; the impact of social policies on women's lives; the internationalization of capital and women's work; and women in politics and political organizations. Materials focus on women's experience in Africa, Asia, and Latin America.

Ms. Thomas-Slayter/Offered every year

218 SEMINAR IN PHYSICAL ENVIRONMENT AND DEVELOPMENT/Seminar, Discussion

The world is changing more rapidly than at any time in history. This course reviews the patterns of change in the Third World, examines the role of environment and resource management in development, and allows students to develop their own in-depth case studies. Permission of instructor is required.

Mr. Lewis/Offered every other year

222 COMMUNIST POLITICAL SYSTEMS IN TRANSITION/Lecture, Discussion

The year 1989 was a year of revolution in communist political systems; the 1990s will be a decade of turbulence and transition. The course examines the interplay among ideology, economic development, and political power in the formation and development of communist political systems. In particular, the course will explore the underlying flaws which lead to the collapse of communism. The course briefly examines the Soviet model and then concentrates on Eastern Europe; some of the unique experiences of China and Cuba are also taken into account.

Ms. Sochor/Offered every other year

225 BLACK POLITICS IN THE UNITED STATES/Lecture, Discussion

Refer to Government 224.

Ms. Grier/Offered every other year

228 ECONOMIC DEVELOPMENT/Lecture

Examines the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. Topics include agricultural development, income distribution, industrialization strategies, foreign aid and investment, population, labor, and employment.

Mr. Hsu/Offered every other year

229 MANAGEMENT OF ARID LANDS/Lecture, Seminar

The drylands of the world present special development problems. Particularly prone to degradation, these regions face the difficult task of providing support to a rapidly growing population. Viewed in a historical perspective, the demography, behavioral characteristics, social and livelihood systems, and physical constraints of dryland ecosystems are analyzed. Special attention is paid to evaluating the management strategies currently employed in their use, identifying the obstacles constraining their growth, and assessing their future development potential.

Mr. Johnson/Offered every other year

232 SOCIAL JUSTICE AND DEVELOPMENT/Seminar

The course explores the linkage between development and social justice, why development is impossible without social justice and vice versa. It starts with the discussion of human rights and then examines and clarifies the ideas on fundamental rights in Liberalism, Marxism/Socialism, and Islam. These insights are brought to bear on understanding the concrete processes and problems of development in a number of countries identified with the three traditions.

Mr. Nawawi/Offered periodically

233 HEALTH AND DISEASE IN THE AMERICAN HABITAT

Based on readings drawn from medical and historical geography, biological science, and the history of American medicine and public health, this course takes a synoptic view of concepts and practices concerning health and disease as a form of environmental cognition and management. Discussion topics range from the changing disease environments of early New World migrants and inhabitants to present-day concerns over environmental health hazards. Emphasis is on societal interactions with urban-industrial disease environments in the last hundred years and the intellectual consequences of these interactions.

Mr. Koelsch/Offered every other year

234 LAND AND DEVELOPMENT IN LATIN AMERICA/Lecture, Discussion

The appropriation and inclusion of Latin American lands in the larger world economy have been an object of policy and debate since the Spanish conquest. Contemporary elements of this process are reviewed, beginning with efforts at agrarian reform and their social, political, and economic significance. The incorporation of peripheral lands of the American tropics are investigated for their impacts on native populations, and finally on the global environment. Special emphasis is given to the policy context of land and development, as well as efforts to change patterns of land appropriation and inclusion for social and environmental ends.

Mr. Jones/Offered every year

236 INTERNATIONAL AND COMPARATIVE RESOURCE

POLICIES/Lecture, Seminar

Deals with international and comparative law/policy of water resources, fisheries, land, oceans and seas, wildlife, air, and nuclear power. Within the context of each of these topical areas, the course objectives are to define the "resource problem(s);" analyze existing institutions (i.e., property rights, management systems, and allocation regimes) and their responses to the problems, and consider conceptual guidelines for improving institutional arrangements and individual actions.

Ms. Emel/Offered every other year

239 SOCIAL STRATIFICATION, SOCIAL CLASS, AND INTERNATIONAL DEVELOPMENT/Seminar

This course concerns itself with differential equality, distribution of rewards and resources, power and privilege, and their relationship and interaction with problems of development. Questions to be explored include the correlates of state systems, relationships between masses and elite, the failures of Marxism as an applied theory, and problems of underdevelopment and underutilization of intellectual resources. The Caribbean and Eastern Block nations will be given special attention.

Mr. Hagopian-Gerber/Offered every year

242 POLITICS OF DEVELOPMENT/Seminar

The course examines the relationship between political development and socioeconomic development. Development being essentially the expansion of the participation of the vast majority of the population, the course first clarifies the concept of political participation, focusing on the development of interdependence between the elite and the majority of the populace. The course then relates political participation to the problems and requirements of increasing economic productivity and social welfare. Much of the discussion will be in light of the experiences of selected Third World countries.

Mr. Nawawi/Offered periodically

244 CONTEMPORARY AFRICAN POLITICS/Seminar

An examination of post-independence African politics from a comparative politics perspective. Theoretical approaches used include underdevelopment or dependency theory, modernization theory and neo-Machiavellian (personal rule) theory. Topics to be considered are: problems of governance, political stability, and democratization; economic development, poverty, and disasters; and apartheid and minority rule in South Africa. Through an analysis of several selected African countries, the course discusses implications of contemporary African politics for Africa's future.

Mr. Adam/Offered periodically

249 INTERNATIONAL POLITICAL ECONOMY/Lecture, Discussion

Refer to course description under Government 249.

Mr. Voegel/Offered every other year

250 PATTERNS OF ASIAN DEVELOPMENT/Seminar

The course aims at understanding the central problem of development, identified as the enhancement of the capabilities and participation of the overwhelming majority of the populace. It focuses in particular on the relationships among productivity, resource mobilization, and participation. In doing so, it examines the family and social structure, land tenure, system of taxation, pattern of conflict and cooperation, industrialization and urbanization, and structure of public administration and government in Japan, China, and Indonesia.

Mr. Nawawi/Offered periodically

256 PROBLEMS IN WATER RESOURCES PLANNING/Problems course

Water resources planning techniques; water resources engineering; and economic, social, and environmental topics are reviewed and applied in a realistic planning exercise. Students working in groups prepare, for a selected region or river basin, a preliminary planning document that could be used as a guide for future detailed planning. Emphasis is on the preparation and the written and oral presentation of the planning document in a professional manner that would be acceptable in the real world. Prerequisite: a 200-level course in environmental assessment; physical geography; economics; environment, technology, and society; or permission of instructor.

Mr. Schwarz/Offered every other year

257 THEORY OF MULTI-OBJECTIVE RESOURCE EVALUATION/Lecture

Introduction to the theory of multi-objective resource evaluation. Presents the full range of criteria required for the economic, social, and environmental evaluation of resource programs and projects, together with selected applications.

Mr. Ratick/Offered periodically

258 SOUTH AFRICA AND DEVELOPMENT IN SOUTHERN AFRICA/Seminar

Examines problems of development in the southern Africa region with particular reference to the SADCC countries and the impact of South Africa on political and socioeconomic change.

Ms. Seidman/Offered periodically

265 MONEY, BANKING, AND PUBLIC FINANCE IN DEVELOPING COUNTRIES/Seminar

Explores the consequences of alternative approaches to domestic and international banking and financial institutions and the role of government in finance development in Third World countries.

Ms. Seidman/Offered periodically

266 ETHNOLOGY AND DEVELOPMENT IN THE CARIBBEAN/Lecture, Seminar

Focuses upon various problems in the analysis of socioeconomic change in the Caribbean culture area, offering an extensive and intensive view of the politics, ethnology, problems, and prospects of development in the Caribbean.

Mr. Hagopian-Gerber/Offered every other year

267 POLITICAL ANTHROPOLOGY/Lecture, Discussion

Examines varying levels of sociopolitical culture. Cultures viewed include varying Caribbean societies, the United States, and the Eastern Block. Analysis of state systems, both contemporary and historical, is given specific attention.

Mr. Hagopian-Gerber/Offered every year

269 ENVIRONMENT AND DEVELOPMENT IN AFRICA/Lecture, Discussion

Efforts to promote economic growth in sub-Saharan Africa have resulted in mixed outcomes. Few successful development projects exist, and the difficulties posed by environmental constraints and human impacts on environment remain considerable. The complex relationship between nature, society, and technology in the use of Africa's resources is the focus of the course.

Mr. Johnson, Ms. Rocheleau/Offered periodically

271 FIELD METHODS: CONCEPTS AND ISSUES IN ANTHROPOLOGY/Seminar

Deals with theoretical and practical issues in the conduct of anthropological

field work, including an intensive survey of the literature and instruction in use of tape recording and camera equipment involved in field work. It includes on-site experience, where students conduct a limited field research project.
Mr. Hagopian-Gerber/Offered periodically

272 INTERNATIONAL DIVISION OF LABOR/Seminar

As a result of the post-World War II revolution in technologies affecting transportation and communications, analysis of Third World development requires an understanding of the consequences of the increasingly interrelated features of the global political economy. This course focuses on the role of transnational corporations and financial institutions in changing the international division of labor. The course examines how this change affects living standards, conditions of work, and incomes of workers in agriculture and industry in both developed and developing countries. Alone or in groups, students are expected to develop a term project assessing the way the changing international division of labor has affected development in a specific country or region of their choice.
Ms. Seidman/Offered periodically

276 CULTURAL ECOLOGY IN THE HUMID TROPICS/Lecture, Seminar

A mystique exists about the humid tropics. Midlatitude biases have led to inaccurate assessments of the composition of these wet, hot lands; of traditional uses of them; and of their suitability, both past and present, to support large populations and high living standards. These issues are examined by focusing on the range of environments and livelihood strategies that have existed or could exist in this region.

Mr. Turner, Ms. Rocheleau/Offered periodically

278 DEVELOPMENT AND APPLIED ANTHROPOLOGY/Seminar

Explores the inherent contradiction between economic development and anthropology, the persistence of diverse cultures within an increasingly homogeneous and pervasive world society. The importance of Indigenous Knowledge Systems is explored, both for their contemporary impacts and their future contribution to a sustainable world economy. A variety of traditional systems may be considered, including medicine, agriculture, and environmental management. Strategies for "cultural survival" are introduced as models of anthropological practice.

Mr. Jones/Offered every year

281 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

A general survey of life in the People's Republic of China from 1949 to the present. Includes a general history of the People's Republic, and special attention to such themes as politics, society, family life, economics, foreign relations, literature, and the arts.

Mr. Ropp/Offered every other year

282 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Examines the changing role of women in Chinese society from the seventeenth century to the present, primarily through the reading and discussion of Chinese literature in English translation.

Mr. Ropp/Offered every other year

283 SUPERPOWERS AND THE THIRD WORLD/Seminar

The purpose of this course is two-fold: (a) to consider the goals and policies of the superpowers toward the Third World and (b) to examine specific case studies where these goals and policies were carried out, amended, or challenged. Some of the underlying questions posed in this course include: What are the

superpowers' expectations of, and sources of influence on, the Third World? How are local problems exacerbated by superpower intervention? To what degree are North-South issues affected by East-West considerations? What effect will the "end of the cold war" have on the Third World?
Ms. Sochor/Offered every year

284 LANDSCAPES OF THE MIDDLE EAST/Lecture, Seminar

A diverse array of landscapes, economies, and cultures comprise the Middle Eastern culture realm. The modernization and transformation of the traditional Islamic and non-Islamic patterns of life and livelihood in the Middle Eastern cultural mosaic are the focus of this course. Literature and ethnographic description supplement geographic analysis.

Mr. Johnson/Offered every other year

287 POLITICS AND POWER IN THIRD WORLD SOCIETIES/Seminar

The seminar examines the evolving nation-state in the Third World. It explores connections between colonialism and Third World political patterns, the interaction between politics and internal economic and social forces, as well as the political impact of various ideologies. Issues of peasant-state relations, local level organizations, and participation through "traditional" and "modern" associations are investigated. Specific groups—the landless, the urban poor, women, and particular ethnic, religious, clan or caste groups—are analyzed in regard to who participates and who gets left out. Examines patron-client relations, political parties, self-help associations, and peasant mass movements for their roles in the process of socio-economic and political change. The course is organized around specific cases from Africa, Asia, and Central America.

Ms. Thomas-Slayter/Offered every other year

288 DISEASE AND HEALTH SERVICES IN THE THIRD WORLD/Seminar

This seminar examines epidemiology and geographic distribution of health problems in developing countries. The health systems created to address these problems also are studied in depth, including their effectiveness, costs, services utilized, and resources employed.

Staff/Offered periodically

289 PROBLEMS IN POLITICAL ECONOMY OF DEVELOPMENT/Seminar

Problems of underdevelopment are examined via class discussions and student presentations. Typical problems covered include the industrialization of East Asia, the effects of underdevelopment on women, and regional development policy in Southern Africa.

Mr. Peet/Offered every year

290 DEVELOPMENT PROGRAMS AND PROJECT MANAGEMENT/Seminar

Explores relationships between development theory and project implementation as well as issues of program and project management. Topics include project design, implementation, management, budget monitoring, scheduling, and evaluation. Students focus on problem identification, develop project proposals, design environmental and social impact assessments, and create evaluation frameworks. Case studies are used extensively.

Mr. Ford, Ms. Thomas-Slayter/Offered every year

293 OVERCOMING WORLD HUNGER—AGRICULTURAL RESEARCH AND INTERNATIONAL DEVELOPMENT/Seminar

This course reviews the achievements, shortcomings, and prospects for agricultural research in resolving problems of production in developing countries.

Agricultural research over the past several decades has been characterized by significant technological breakthroughs and improvements, and at the same time by widespread policy breakdowns in the use of technological improvements. The identification of successes and failures in the agricultural development process triggered responses, both within international agricultural research centers and academic institutions in the developed world. This course treats the changes of the past decades, and especially focuses on strategies such as farming systems research, which attempt to introduce social considerations into agricultural research.

Mr. Jones/Offered every year

295 AGRICULTURE IN THIRD WORLD ECONOMIES/Lecture

Consumption and commodity agriculture in the non-Western world is explored. Emphasis is placed on the economic behavior and livelihood strategies employed in these economies and on theories of agricultural change.

Mr. Turner/Offered periodically

297 ENVIRONMENTAL MANAGEMENT FOR INTERNATIONAL DEVELOPMENT/Lecture, Discussion

An understanding of environmental management for development begins by critically examining the policies and methods of international donors and other development organizations responsible for aiding the environment. To complete this understanding, examples of local resource user systems are investigated to evaluate how the practices of individual managers in the Third World—farmers, herders, fishermen, etc.—are brought to bear on the environment.

Staff/Offered periodically

299.1 READINGS IN INTERNATIONAL DEVELOPMENT/Discussion

Variable credit and topics relevant to issues of international development.

Staff/Offered every year

299.2 RESEARCH IN INTERNATIONAL DEVELOPMENT

Variable credit, differing topics, may be associated with international development research projects.

Staff/Offered every year

302 THESIS RESEARCH

Master's degree candidates may register for thesis research while working on research for their master's degree thesis.

Staff/Offered every year

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY/Seminar

Designed for thesis- and dissertation-level students working in the areas of resources, development, ethno-ecology, social theory, and political economy in developing countries, who are developing proposals or preproposal research papers. The seminar provides a forum for discussion, criticism, and practical advice. Places strong emphasis on ethnographic approaches and a combination of quantitative and qualitative field methods.

Ms. Rocheleau/Offered periodically

314 RESEARCH DESIGN AND METHODS/Seminar

Covers all the major topics in research design and methodology: e.g., problem definition, research strategies, measurement, sampling, and data collection techniques and procedures.

Mr. Mitchell/Offered every year

330 SEMINAR IN CULTURAL ECOLOGY/Seminar

The "ecological transition," the increasing incorporation of nature into human culture, is the point of departure for an examination of the theory, method, and policy relevance of cultural ecology. Prerequisite: Geography 177 or equivalent. Mr. Johnson, Mr. Turner/Offered periodically

336 HOUSEHOLD ECONOMIC BEHAVIOR AND THE GEOGRAPHY OF DEVELOPMENT/Graduate Seminar

Explores the nature and role of the household as a socioeconomic organization and primary decision-making unit in developing countries. Key issues relate to semisubsistence farm households, migration, urban-rural linkages, gender and age divisions of labor, women farmers, and cash crop versus food crop. Decision-making theory and the economics of household production are studied as a basis for household-level research on resource management. Staff/Offered periodically

350 INTERNSHIP/FIELD WORK

Graduate students in International Development may elect to undertake field work over and above the 8 credits required for fulfillment of the Master's degree. Internship is normally overseas for purposes of research related to the thesis.

Staff/Offered every semester

351 SEMINAR IN RESOURCE GEOGRAPHY: THEORY AND METHOD/Seminar

Examination of major theories and methods of resource estimation, allocation, and management, providing coverage of the scholarly literature of the field. Ms. Emel/Offered every other year

357 APPROACHES TO REGIONAL DEVELOPMENT PLANNING/Seminar

This graduate seminar is intended to provide an understanding of the issues encountered in development intervention: growth and equity; sectoral emphasis; spatial distribution; and relations between classes, regions, states, and natural resources. Through a review of the literature on development economics, political economy, growth models, spatial analysis, modernization theories, and rural-urban dynamics, this course focuses on concepts of the region as the unit for development planning and intervention.

Mr. Karaska/Offered periodically

360 DEVELOPMENT THEORIES AND PHILOSOPHIES OF CHANGE/Seminar

A graduate seminar that examines development theory relating theory, issues, and practice with an emphasis on the evolution of ideas and the search for alternative approaches to development interventions.

Ms. Seidman, Staff/Offered every year

370 ANIMAL AGRICULTURE/Lecture, Discussion

Animals and humans have a long history of close association. First as hunters and then as domesticators, humans have relied on animals for food, fiber, labor, and companionship. The ecology of many diseases also links people to the animals that they exploit. Today animals play an increasingly important role in efforts to increase food production and to improve diet quality in support of a growing human population. Both terrestrial and aquatic animal systems, and the theory and practice of their intensified exploitation, are examined in this seminar.

Mr. Johnson/Offered every other year

395 ECONOMIC DEVELOPMENT AND POLICY ANALYSIS/Seminar

This course reviews alternative approaches to planning for development in the Third World, ranging from that proposed by the World Bank and IMF to that suggested by a socialist perspective. It explores the issues relating to institutional change required to implement alternative kinds of plans in industry, agriculture, trade, and finance. Students are expected (alone or working in groups) to develop a term project critiquing the formulation and implementation of development plans in any developing country they select.

Ms. Seidman/Offered periodically

396 INSTITUTIONAL CHANGE FOR DEVELOPMENT FINANCE/Seminar

Explores the structure of institutions in developing countries for finance and the issues surrounding the transformation of these institutions for development purposes.

Ms. Seidman/Offered periodically

For additional courses related to International Development, refer to the following History Department listings:

020 AMERICA AND THE WORLD/Lecture, Discussion

Refer to course description under History 20.

Mr. Little/Offered every year

177 LATIN AMERICAN HISTORY SINCE 1825/Lecture, Discussion

Refer to course description under History 177.

Mr. Little/Offered every other year

181 TRADITIONAL CHINA/Lecture, Discussion

Refer to course description under History 181.

Mr. Ropp/Offered every other year

184 MODERN JAPAN/Lecture

Refer to course description under History 184.

Mr. Tanaka/Offered every other year

291 ADVANCED TOPICS IN INTERNATIONAL RELATIONS/Seminar

Refer to course description under History 291.

Mr. Little/Offered every year

International Relations

PARTICIPATING FACULTY

Douglas Little, Ph.D., *program director*: U.S. foreign policy, modern Latin America
Daniel Borg, Ph.D.: modern Europe
Cynthia Enloe, Ph.D.: modern Asia, militarization
Beverly Grier, Ph.D.: modern Africa
Robert Hsu, Ph.D.: international economics, economic development
Michael Klein, Ph.D.: international economics
George Lane, M.A.: U.S. foreign policy, modern Middle East
Paul Lucas, Ph.D.: early modern Europe
Ronald Richardson, Ph.D.: modern Europe, British Empire
Paul Ropp, Ph.D.: modern Asia, China
Robert Ross, Ph.D.: international political economy, urban studies
Zenovia Sochor, Ph.D.: Soviet Union, comparative foreign policy
Stefan Tanaka, Ph.D.: modern Asia, Japan, intercultural relations
Roger Van Tassel, Ph.D.: international economics
William Voegelé, Ph.D.: international relations, national security studies

INTERNATIONAL RELATIONS CONCENTRATION

Clark's International Relations Program constitutes neither a department nor a major, but rather a concentration within two existing majors: history and government. Recent developments in world affairs have broken down the old disciplinary boundaries between diplomatic history and international relations, making an interdisciplinary approach essential. The international relations concentration consists of a series of seven interrelated courses, designed to provide an integrated framework for understanding international affairs from historical, political, and economic perspectives.

REQUIREMENTS

A. A student wishing to pursue a concentration in international relations must take a *core cluster* consisting of three courses.

Core Cluster:

1. Economics 108, *International Financial Developments*
2. Government 169, *Introduction to International Relations* or History 169, *History of International Relations*
3. History 238, *U.S. Foreign Relations since 1914*

B. In addition, international relations concentrators must choose one of the following *analytic clusters*: World Economics, Comparative Diplomacy, or Self-Designed Area Studies.

International Political Economy Cluster (choose *three* of the following six courses):

1. History 125, *Development Problems*
2. Economics 242, *European Economic History*
3. Economics 176, *Comparative Economic Systems*
4. Geography 227, *Geography of the Third World*
5. Government 249, *International Political Economy*
6. Sociology 257, *Cities in Global Perspective*

Comparative Diplomacy Cluster (choose *three* of the following six courses):

1. Government 211, *The United Nations*

2. History 90, *Twentieth-Century Global History*
3. Government 179, *Comparative Foreign Policy*
4. Government 245, *U.S. Foreign Policy—Middle East*
5. History 253, *Twentieth-Century Europe*
6. Government 280, *Soviet Foreign Policy*

Self-Designed Area Studies Cluster (three courses):

Students wishing to concentrate on a particular region may select a set of three interrelated courses as their analytic cluster. For example, someone concentrating on modern Asia might choose Economics 177, *Chinese and Japanese Economies*; History 182, *Modern China*; and Government 236, *Politics of Philippines and Vietnam*.

- C. Finally, international relations students must take a *capstone seminar* related to their analytic cluster. Examples of suitable capstone seminars include Government 389 and History 291, *Advanced Topics in International Relations*; History 288, *The Atomic Bomb*; and Government 283, *Superpowers and the Third World*.
- D. International relations students must also fulfill the other existing requirements of their respective majors. International relations students should also note that Economics 10, *Issues and Perspectives*, is a prerequisite for all 100-level economics courses.

Italian

See Department of Foreign Languages and Literatures.

Jewish Studies

PARTICIPATING FACULTY

Everett Fox, Ph.D., *program director*: Hebrew Bible, Midrash, Jewish ritual and folklore, classical Jewish thought

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, classical mythology, classical art and archaeology, ancient history, religion in antiquity

Shula Bitran, B.A.: Hebrew language and literature

Shelly Tenenbaum, Ph.D.: sociology of American Jewry, race/ethnicity, Holocaust studies

COURSES

The Jewish Studies Program is neither a department nor a major, but rather a concentration that allows students majoring in any discipline to pursue extensive course work in Jewish studies. The following courses in Jewish studies are offered in the history, sociology, and foreign languages and literatures departments. For course descriptions, refer to the course listings under those departments. For further information concerning the Jewish Studies Program, to discuss the possibility of integrating Jewish studies courses

within various departmental majors, or to develop a concentration or self-designed major in Judaica, contact Mr. Fox.

HEBREW LANGUAGE AND LITERATURE COURSES

(See also Department of Foreign Languages and Literatures.)

101-102 ELEMENTARY HEBREW/Lecture, Discussion

Refer to course description under Hebrew.

Ms. Bitran /Offered every year

103 INTERMEDIATE HEBREW/Lecture, Discussion

Refer to course description under Hebrew.

Ms. Bitran/Offered every year

104 INTERMEDIATE/ADVANCED HEBREW/Lecture, Discussion

Refer to course description under Hebrew.

Ms. Bitran/Offered every year

HEBREW LITERATURE/JEWISH STUDIES COURSES CONDUCTED IN ENGLISH

117 INTRODUCTION TO THE HEBREW BIBLE I: NARRATIVE AND LAW

Refer to course description under Hebrew.

Mr. Fox/Offered every year

118 INTRODUCTION TO THE HEBREW BIBLE II: PROPHECY AND POETRY

Refer to course description under Hebrew.

Mr. Fox/Offered every year

120 GREAT JEWISH LIVES/Lecture, Discussion

Refer to course description under Hebrew.

Mr. Fox/Offered every other year

122 WORKSHOP IN JUDAISM: SACRED TIME AND THE LIFE CYCLE/ Lecture, Discussion

Refer to course description under Hebrew.

Mr. Fox/Offered every other year

123 THE MIDRASHIC TRADITION/Lecture, Discussion

Refer to course description under Hebrew.

Mr. Fox/Offered every other year

127 MODERN JEWISH ETHICS/Lecture, Discussion

Refer to course description under Hebrew.

Staff/Offered every other year

130 SUFFERING AND EVIL IN JEWISH TRADITION/Lecture, Discussion

Refer to course description under Hebrew.

Mr. Fox/Offered every other year

185 MODERN JEWISH LITERATURE/Lecture, Discussion

Refer to course description under Hebrew.

Staff/Offered every other year

HISTORY COURSES

174 THE JEWISH EXPERIENCE/Lecture, Discussion

Refer to course description under History.

Staff/Offered every year

276 MODERN JEWISH HISTORY AND THOUGHT/Lecture, Discussion

Refer to course description under History.

Staff/Offered every other year

277 HISTORY OF ZIONISM AND THE RISE OF ISRAEL/Lecture, Discussion

Refer to course description under History.

Staff/Offered every other year

CLASSICS COURSES

123 THE MIDRASHIC TRADITION/Lecture, Discussion

Refer to course description under Hebrew.

Mr. Fox/Offered every other year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD/Lecture

Refer to course description under Classics.

Mr. Burke/Offered every other year

267 THE RELIGIOUS EXPERIENCE IN THE ANCIENT WORLD/Lecture, Discussion

Refer to course description under Classics.

Mr. Burke/Offered every other year

SOCIOLOGY COURSES

203 AMERICAN JEWISH LIFE/Variable Format

Refer to course description under Sociology.

Ms. Tenenbaum/Offered every year

204 THE HOLOCAUST: A STUDY OF GENOCIDE/Variable Format

Refer to course description under Sociology.

Ms. Tenenbaum/Offered every year

Management

FACULTY

Robert A. Ullrich, D.B.A., *dean*: motivation, organizational theory and design, employment, robotics, behavioral decision research

Royce Anderson, Ph.D.: marketing, consumer behavior, marketing research, marketing ethics

Margarete Arndt, D.B.A.: management of health care organizations, strategic planning, practice patterns

- Barbara Bigelow, Ph.D.: decision making, strategic management, management of health care facilities, corporate political strategy, managerial psychology, organizational structure
- Robert C. Bradbury, Ph.D.: health systems analysis, hospital quality and cost control, health care competition, health policy, health care strategic planning, health promotion and disease prevention
- Robert M. Brown, Ph.D.: production scheduling, inventory modeling, queuing, mathematical programming, quantitative methods
- Gary N. Chaison, Ph.D.: union mergers; union structure, government and growth; comparative US/Canadian industrial relations; human resource management, collective bargaining
- Dileep G. Dhavale, Ph.D., C.P.A., C.P.I.M.: financial and managerial accounting, operations management, management science
- Joseph H. Golec, Ph.D.: finance, industrial organization, public policy and regulation, money and banking, econometrics, macroeconomics, determinants of incentive compensation contracts for investment advisers and their impact on performance and risk taking
- Laura M. Graves, Ph.D.: organizational behavior, organizational theory, principles of management, human resource management, compensation, recruitment and selection, leadership theory
- Harold T. Moody, Ph.D.: market price structures and strategies; pricing services in profit, nonprofit, and governmental organizations; marketing implications of customer and client waiting periods (queue disciplines, queue environments, and consumer behavior patterns)
- Edward J. Ottensmeyer, Ph.D.: strategic issue management, management of technology and innovation, strategy development in the nonprofit sector, business/government relations
- R. P. Sundarraj, Ph.D.: management information systems, production management, operations management
- Maurry Tamarkin, Ph.D.: portfolio analysis, capital investment, investor behavior

ADJUNCT FACULTY

- | | |
|--------------------------------------|--------------------------------|
| Rockie Blunt, M.A. | Richard D. Fiorentino, M.B.A. |
| Donald E. Fries, M.B.A., J.D., LL.M. | Murray Hershman, J.D. |
| Jane A. Kapral, M.S., C.P.A. | Thomas Landers, M.B.A., C.P.A. |
| Alice K. Livdahl, J.D. | Thomas P. Massey, Ph.D. |
| Benjamin R. Schenck, LL.B. | Alan M. Stoll, M.P.A. |

AFFILIATE FACULTY

- | | |
|---------------------------|-------------------------|
| Carolyn Cotsonas, J.D. | Peter Gann, M.D., M.S. |
| Arthur Gerstenfeld, Ph.D. | Gale L. Kelly, Ph.D. |
| John T. O'Connor, Ph.D. | Pamela D. Sherer, Ph.D. |

UNDERGRADUATE PROGRAMS IN MANAGEMENT

The Graduate School of Management offers two programs for undergraduates: the undergraduate major and the five-year B.A./M.B.A. program. Program descriptions follow. Interested students should contact the Assistant Dean for Academic Affairs in the Graduate School of Management. Students wishing additional information on the M.B.A. program should refer to the Graduate School of Management catalogue.

FIVE-YEAR B.A./M.B.A. PROGRAM

The Graduate School of Management offers undergraduate students the option of participating in a five-year program, in which they can earn a B.A. in their major, as well as the M.B.A. degree. Major features of the program are:

1. an undergraduate major in any of the liberal arts disciplines at the University. Management is not an acceptable major for this program.
2. graduate courses, beginning in the senior year, which lead to the M.B.A. degree and help students prepare for management positions in business, government, and nonprofit organizations.

The five-year program is designed to meet several needs expressed by students today. It provides a well-rounded education by combining an undergraduate liberal arts education with a master's degree in business administration and reduces the total time for earning both degrees to five years.

The Program Courses

The Five-year B.A./M.B.A. Program involves four sets of learning experiences:

1. courses in departments such as economics and mathematics, which provide the tools needed for graduate study in management;
2. the possibility of spending the junior year abroad;
3. graduate management courses taken in the senior year;
4. completion of the M.B.A. program during the fifth year.

Student Advising and Entrance into the Program

Students should plan their undergraduate courses carefully in order to complete the requirements for both their major and the M.B.A. program in the time available. The management school's assistant dean for academic affairs is available to advise students interested in the five-year B.A./M.B.A. program.

Admission to the program occurs after the sophomore year, but before the beginning of the senior year. Interested students are required to apply to the Graduate School of Management for admission to the B.A./M.B.A. program. As part of the application process, students are required to submit transcripts of undergraduate academic work and to take the Graduate Management Admission Test (GMAT).

Work Experience:

B.A./M.B.A. students are encouraged to participate in internships, summer jobs, or other experiences that can provide exposure to management issues and environments. The exposure can improve a student's appreciation of M.B.A. courses and can enhance his or her credentials and qualifications for job placement upon graduation from the M.B.A. program.

FIVE-YEAR B.A./M.B.A. PROGRAM

Freshman Year/Sophomore Year

ECON 10	<i>Issues and Perspectives</i>
ECON 11	<i>Principles of Economics</i>
ECON 160	<i>Introduction to Statistical Analysis</i>
OR	
PSYC 105	<i>Quantitative Methods</i>
OR	
MGMT 102	<i>Introduction to Statistical Analysis</i>
MATH 110	<i>Functions and Calculus I</i>
OR	
MATH 120	<i>Calculus I</i>

Junior Year

Apply to M.B.A. portion of the program

Senior Year

Complete B.A. requirements (in major other than Management)

MBA 301	<i>Management Accounting</i>
MBA 304	<i>Introduction to MIS</i>
MBA 310	<i>Organization Behavior</i>
MBA 330	<i>Marketing Management</i>
MBA 340	<i>Financial Management</i>
MBA 350	<i>Operations Management</i>

Fifth Year

MBA 360	<i>Business Policy</i>
MBA 362	<i>Business in Society</i>
	<i>Eight electives in M.B.A. Program</i>

UNDERGRADUATE MAJOR IN MANAGEMENT

Students interested in pursuing careers in management immediately after graduation should consider management as an undergraduate major. The management major draws on a variety of disciplines, providing a program that is both practical and broadly educational. Required and optional courses include offerings from a number of academic departments.

Management at Clark offers students a vocational emphasis by providing the necessary prerequisites for job placement with a bachelor's degree. Students interested in graduate study towards an M.B.A. degree are encouraged to major in an area other than management and to consider the five-year B.A./M.B.A. program.

REQUIREMENTS FOR MANAGEMENT MAJORS

Freshman/Sophomore Years

MATH 110	<i>Functions and Calculus I</i>
OR	
MATH 120	<i>Calculus I</i>
ECON 10	<i>Issues and Perspectives</i>
ECON 11	<i>Principles of Economics</i>
MGMT 101	<i>Principles of Accounting</i>
MGMT 102	<i>Introduction to Statistical Analysis</i>
OR	
ECON 160	<i>Introduction to Statistical Analysis</i>
MGMT 104	<i>Introduction to MIS</i>
MGMT 278	<i>Business Law</i>

Junior Year - Fall

MGMT 203	<i>Managerial Accounting</i>
MGMT 210	<i>Management and Behavioral Principles</i>
MGMT 230	<i>Marketing Management</i>

Junior Year - Spring

MGMT 240	<i>Corporate Finance</i>
MGMT 250	<i>Operations Management</i>

Senior Year - Fall

MGMT 262	<i>Business Ethics</i>
MGMT ____	<i>Management Elective</i>

Senior Year - Spring

MGMT 260	<i>Business Policy</i>
MGMT ____	<i>Management Elective</i>

UNDERGRADUATE CONCENTRATION IN ACCOUNTING FOR C.P.A.

Clark offers a series of courses designed to help undergraduate students prepare for the Certified Public Accountant (C.P.A.) examination. This opportunity should appeal to some management majors and also to students majoring in other fields. There is no requirement that students major in accounting.

In Massachusetts, individuals who wish to take the C.P.A. examination must have passed a minimum of eight post-secondary courses in accounting and related areas. Clark's eight-course C.P.A. sequence includes five accounting courses (MGMT 101, *Principles of Accounting*; MGMT 203, *Managerial Accounting*; MGMT 284, *Federal Tax Accounting*; MGMT 280, *Intermediate Accounting I*; and MGMT 281, *Intermediate Accounting II*) and three accounting-related courses, which might include MGMT 104, *Introduction to MIS*; MGMT 240, *Corporate Finance*; and MGMT 278, *Business Law*.

A Graduate School of Management faculty member serves as advisor to all Clark students interested in preparing for the Massachusetts C.P.A. examination. Please note that additional courses will be necessary to satisfy the requirements of neighboring states, such as Connecticut, New Jersey, and New York.

While the eight courses satisfy Massachusetts' requirements, they may not provide sufficient preparation for the examination itself. Students are advised to augment the eight-course sequence with additional courses in *Auditing* and *Advanced Accounting*. These courses are offered by consortium schools and are available to Clark students.

Information on certified public accountancy, the C.P.A. examination, and various states' requirements is available from the assistant dean for academic affairs of the Graduate School of Management.

COURSES

101 PRINCIPLES OF ACCOUNTING/Lecture, Discussion

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, education, and health.

Staff /Offered every year

102 INTRODUCTION TO STATISTICAL ANALYSIS/Lecture, Discussion

Examines basic concepts and techniques of statistical methods: descriptive statistics, permutation and combination, introduction to probability theory, sampling distribution, standardized normal distribution and other related distributions, simple and multiple regression, simple forecasting, and statistical decision making.

Staff/Offered periodically

104 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS/Lecture, Discussion

The objective of this course is to provide basic knowledge of the field of information systems. Topics include information and organization, database management, recent developments in computer technology and their effect on management, and information systems design and management.

Staff/Offered every year

203 MANAGERIAL ACCOUNTING/Lecture, Discussion

This advanced course emphasizes accounting from the management perspective. Students learn principles of managerial decision making using accounting information. Prerequisite: Management 101.

Staff/Offered every year

210 MANAGEMENT AND BEHAVIORAL PRINCIPLES/Lecture, Discussion

Concerns general principles of management, with a special emphasis on the behavior of people in organizational settings. Topics include principles of organization, decision making, leadership, motivation and rewards, job satisfaction, and appraising employee performance.

Staff/Offered every year

211 ORGANIZATION STRUCTURE AND PROCESS/Lecture, Discussion

This course surveys the major concepts in the area of organizational theory, with a special emphasis on the application of these concepts to business problems. Topics include the properties of organizational environments, organizational structure, organizational power and conflict, and organizational change. Prerequisite: Management 210.

Staff/Offered periodically

225 HUMAN RESOURCE MANAGEMENT/Lecture, Discussion

Covers the general areas of human resource management, including job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO and OSHA requirements, manpower planning, and women in management.

Staff/Offered every year

226 INDUSTRIAL RELATIONS/Lecture, Discussion

An introduction to the concepts, theory, and practice of labor-management relations. Topics include: the development of the trade union movement; the structure, practices, and outcomes of collective bargaining; the administration of the collective agreement; disputes resolution procedures; and the evolving public policy of labor relations.

Staff/Offered every year

230 MARKETING MANAGEMENT/Lecture, Discussion

Surveys the role of marketing in business and society, focusing on specific marketing activities. Topics include the marketing environment, marketing research and information systems, consumer behavior, the organizational consumer, products, pricing, distribution, promotion, international service, and nonprofit marketing. Prerequisites: Economics 10, 11 and Management 101.

Staff/Offered every year

231 MARKETING RESEARCH/Lecture, Discussion

Marketing research focuses on consumer behavior and retail advertising. Topics include: primary and secondary data collection, questionnaires for attitude and awareness surveys, mail and phone surveys, personal interviews, focus groups, and data analysis techniques. Prerequisite: Management 230.

Staff/Offered periodically

240 CORPORATE FINANCE/Lecture, Discussion

A comprehensive study of financial decision making from the perspective of the internal financial manager. Topics covered include valuation, loss of capital, capital structure, capital budgeting and financial analysis. Prerequisites: Economics 10, 11, 160 (or Management 102), Math 110 or 120 and Management 101.

Staff/Offered every year

242 INVESTMENTS/Lecture, Discussion

Covers investment principles, market behavior, and investment strategy. Investment principles include: portfolio selection, fundamental analysis, portfolio theory, debt instruments and money markets, the stock option market, and alternative investments. Prerequisite: Management 240.

Staff/Offered every year

250 OPERATIONS MANAGEMENT/Lecture, Discussion

Surveys techniques in the area of model building and operations research.

Emphasis is on topics oriented toward business forecasting, inventory control, system reliability, waiting-line theory, and assembly-line balancing. Prerequisites: Economics 10, 11, Economics 160 or Management 102, Management 101, Management 104, and Math 110 or 120. Staff/Offered every year

260 BUSINESS POLICY/Case Studies, Lecture, Discussion

This capstone-type course should be taken during the senior year. This course describes how the integration of major management functions (e.g., marketing, finance, and production) makes an organization capable of choosing and executing an appropriate strategy. Prerequisites: Management 210, 230, 240 and 250.

Staff/Offered every year

262 BUSINESS ETHICS/Case Studies, Lecture, Discussion

The social, political, technological, and ethical issues confronting the modern corporation make it necessary for the contemporary manager to develop a broad-gauged knowledge base to deal with complex situations. This course examines the relationship between organizations and their many stakeholders. Managerial values and ethics are also analyzed.

Staff/Offered every year

278 BUSINESS LAW/Lecture, Discussion

Examines the legal framework within which American businesses operate. It is concerned with the various laws that determine the rights and obligations of persons taking part in business transactions. Emphasis is on those areas of the law commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. The goal is to provide students with an understanding of the business and legal environments that will guide future management decisions and inquiry. There are assigned textual readings and class discussion of cases selected to illustrate these topics.

Staff/Offered every year

280 INTERMEDIATE ACCOUNTING I/Lecture, Discussion

Recognition and measurement of current and noncurrent assets, development and analysis of income statements, balance sheets and cash flow statements. Prerequisite: Management 101.

Staff/Offered every year

281 INTERMEDIATE ACCOUNTING II/Lecture, Discussion

Accounting for current and noncurrent liabilities, shareholders' equity, pension costs, leases, changes in price levels and earnings per share. Prerequisites: Management 101 and 280.

Staff/Offered every year

283 ADVANCED ACCOUNTING/Lecture, Discussion

Application of accounting principles and procedures to business combinations, foreign operations and transactions, governmental and nonprofit organizations and partnerships. Prerequisites: Management 101, 280, and 281.

Staff/Offered every year

284 FEDERAL TAX ACCOUNTING/Lecture, Discussion

This is a basic course in the principles of federal income tax laws pertaining to individuals and organizations. Students develop an understanding of the effect of tax considerations on business decisions. The course explores general rules

and accounting principles, emphasizing preparation of tax returns through problem analysis. Prerequisite: Management 101.
Staff/Offered every year

285 AUDITING/Lecture, Discussion

General principles and procedures of auditing and internal control. Also, auditing standards, statistical sampling, EDP auditing and professional ethics. Prerequisites: Management 101, 280, and 281.
Staff/Offered every year

299 INTERNSHIP

Offered for variable credit.

THE M.B.A. PROGRAM CURRICULUM

The M.B.A. curriculum includes eighteen courses taken for credit, plus a noncredit mathematics review course that may be waived by students demonstrating basic competence in algebra and related subjects.

The nineteen courses are grouped into five categories:

Prerequisite Course

MBA 299 *Mathematics for Managers* (not for credit)

Background Courses

MBA 301 *Management Accounting*

MBA 302 *Statistical Methods*

MBA 303 *Management Economics*

MBA 304 *Introduction to Management Information Systems (MIS)*

Core Courses

MBA 310 *Organization Behavior*

MBA 330 *Marketing Management*

MBA 340 *Financial Management*

MBA 350 *Operations Management*

Capstone Courses

MBA 360 *Business Policy*

MBA 362 *Business in Society*

In addition, students are required to take eight elective courses, selected from among the areas listed below. Students may choose any electives for which they have met the prerequisites. However, students may not enroll in more than three electives in any one of the functional areas listed below. This restriction ensures a broad course of study aimed at providing overall management competence.

Elective Concentrations

At the start of their careers, most M.B.A. graduates will work in one of several management functional areas. Yet, functional specialties are practiced differently in different organization settings. For example, how managers view finance depends on whether they are employed in a large multinational corporation, a small partnership, a nonprofit hospital, or a new venture.

Clark's curriculum permits elective concentrations in the functional areas of accounting, finance, human resource management, marketing, and operations management. Concentrations also exist in the organizational settings of general management, health care management, international management and new venture management.

Clark thus offers students an opportunity to pursue up to two elective concentrations: one in a functional area and one representing an organizational setting. For example, a student interested in finance who intends to work in the health care industry might enroll in the following:

MHA 320	<i>Health Systems</i>
MHA 340	<i>Health Care Strategic Planning</i>
MHA 350	<i>Economic Aspects of the Medical Care Industry</i>
MHA 370	<i>Financial Management of Health Institutions</i>
MBA 341	<i>Corporate Finance</i>
MBA 342	<i>Investments</i>

A student preparing for a career in international marketing might choose to take the following:

MBA 345	<i>International Finance</i>
MBA 374	<i>International Business</i>
MBA 375	<i>International Management</i>
MBA 335	<i>International Marketing</i>
MBA 331	<i>Marketing Research</i>
MBA 334	<i>Consumer Behavior</i>

Elective Areas and Courses

Human Resource Management

MBA 311	<i>Organization Structure and Process</i>
MBA 318	<i>Group Dynamics</i>
MBA 320	<i>Organization Development</i>
MBA 322	<i>Consulting Strategies and Skills</i>
MBA 325	<i>Human Resource Management</i>
MBA 326	<i>Industrial Relations</i>
MBA 327	<i>Collective Bargaining</i>

Marketing

MBA 331	<i>Marketing Research</i>
MBA 333	<i>Market Pricing</i>
MBA 334	<i>Consumer Behavior</i>
MBA 335	<i>International Marketing</i>
MBA 336	<i>Marketing of Services</i>
MBA 337	<i>Industrial Marketing</i>
MBA 338	<i>Advertising and Promotion</i>
MBA 339	<i>Marketing in a High Technology Environment</i>

Finance

MBA 341	<i>Corporate Finance</i>
MBA 342	<i>Investments</i>
MBA 345	<i>International Finance</i>
MBA 346	<i>Financial Institutions</i>
MBA 347	<i>Modern Portfolio Theory</i>
MBA 348	<i>International Investments</i>
MBA 349	<i>Speculative Markets</i>

*Operations Management and MIS**

MBA 351	<i>Operations Research</i>
MBA 352	<i>Seminar in Management Information Systems (MIS)</i>
MBA 354	<i>Strategic Management of Technology</i>
MBA 355	<i>Production Management</i>

*Through an agreement with Worcester Polytechnic Institute (W.P.I.), Clark M.B.A. students may take additional electives in these areas at W.P.I. and apply the credits toward the Clark M.B.A. These courses count towards residency at Clark and are included in the calculation of grade point averages.

Management and Policy

- MBA 370 *Managerial Communications*
- MBA 371 *Small Business Management*
- MBA 373 *The General Manager*
- MBA 374 *International Business*
- MBA 375 *International Management*
- MBA 376 *Senior Executive Seminar*
- MBA 378 *Legal Aspects of Management*
- MBA 379 *Projects in Management*
- MBA 396 *Special Topics*
- MBA 398 *Directed Research in Management*
- MBA 399 *Directed Readings in Management*

Accounting

- MBA 380 *Managerial Accounting, Planning and Control*
- MBA 381 *Accounting and Financial Analysis*
- MBA 382 *Accounting Information Systems*
- MBA 384 *Federal Tax*
- MBA 386 *Cost Measurement and Control*

Health Care Management

- MHA 320 *Health Systems*
- MHA 340 *Health Care Strategic Planning*
- MHA 350 *Economic Aspects of the Medical Care Industry*
- MHA 360 *Legal Aspects of Health Care Administration*
- MHA 370 *Financial Management of Health Institutions*
- MHA 390 *Health Care Management*

MEETING TIMES AND LOCATIONS

The M.B.A. Program is accessible to both full- and part-time students. Classes are scheduled during morning, afternoon, and evening hours, permitting recent baccalaureate graduates and seasoned managers to share their views and experiences.

The M.B.A. Program is offered in two locations: on Clark's campus in Worcester and at the Massachusetts Microelectronics Center (M2C) in Westborough.

Clark operates on the semester system. During the fall and spring semesters, classes are held from 9 a.m. until noon and from 1 p.m. until 4 p.m. at the Clark campus. Classes meet from 6 p.m. to 9 p.m. at Worcester and from 6:30 p.m. to 9:30 p.m. at Westborough. All classes meet once a week, Monday through Thursday. A summer term is held at all campuses, with classes meeting twice weekly in the evening from mid-May through the end of June.

Courses are taught by the same faculty at all campuses. Students may take courses at any campus at any available time. In Worcester, all required courses are taught at least once per year during the day and evening time periods, along with a wide selection of electives. All required courses are taught each year in Westborough, with electives generally available every other year. For scheduling details, students should consult the registration booklet, distributed prior to each semester.

ACADEMIC POLICIES

GENERAL GRADUATION REQUIREMENTS

Candidates for the M.B.A. degree must meet the requirements of nineteen courses: one noncredit prerequisite course, four background courses, four core courses, two capstone courses, and eight elective courses. Students must pass a minimum of ten courses (excluding M.B.A. 299) in the Graduate School of Management in order to meet the residency requirement of Clark University's M.B.A. Program. A maximum of nine courses may be waived and/or transferred (see below). Students normally are permitted a maximum of six years from the date of their initial enrollment in the M.B.A. Program to complete all degree requirements. The minimum grade point average required for graduation is a 3.0 (B).

COURSE WAIVERS

Students may apply for waivers from nine of the nineteen courses required for graduation. Courses that may be waived are limited to *Mathematics for Managers* (MBA 299), the four background courses (MBA 301, 302, 303, and 304), and the four core courses (MBA 310, 330, 340, and 350).

Course waivers are based on transcript reviews and/or examinations and are granted by the Graduate School of Management faculty. Generally, a waiver reduces the number of courses the student must take. In some cases, a waiver will be granted if the student passes an elective course in the subject area of the waived course. Typically, a waiver is granted when an entering student presents evidence of having passed an equivalent graduate level course (or two or more baccalaureate courses) in the relevant subject area. The student must have earned at least a B in such courses. Waivers will depend in part on how recently a substitute course was taken; e.g., courses in MIS taken more than five years prior to the date of application for waiver will not be acceptable.

TRANSFER CREDIT AND RESIDENCY REQUIREMENT

Students enrolled in the M.B.A. Program may receive transfer credit for post-baccalaureate work. The nineteen-course requirement may be reduced by two courses for students having appropriate graduate-level credits that have not been applied to another degree. Transfer credit is assigned only to elective courses. Grades of at least B are required for course work recently completed at schools accredited by the American Assembly of Collegiate Schools of Business (AACSB). Transfer credit may be granted by examination for course work completed at non-accredited programs or taken more than five years prior to the date of application for transfer credit.

Prior approval by the assistant dean for academic affairs is required for transfer credit granted for courses taken after the student has matriculated in the Graduate School of Management. Normally, such approval is granted for appropriate course work that is not available at Clark.

Students who wish to receive waivers or transfer credits should submit a completed *Request for Course Waiver or Transfer* form to the assistant dean for academic affairs. Regardless of the number of courses transferred or waived, M.B.A. candidates must pass a minimum of ten courses (excluding MBA 299) taken at Clark's Graduate School of Management.

GRADE POINT AVERAGE

Master's degree candidates must maintain a minimum grade point average of 3.0 in order to remain in good standing and eligible for graduation (A = 4.0 points, B = 3.0, C = 2.0, and F = 0: + or - symbols attached to letter grades increase or decrease them, respectively, by 0.3). Waived courses, Incompletes,

and courses taken outside Clark University (except W.P.I. courses) are not included in computations of grade point averages.

Grading System

Letter grades are used in performance evaluation as follows:

- A Outstanding
- B Good
- C Marginal Pass
- F Failing

I Incomplete: An *Incomplete* is given at the discretion of the instructor when circumstances beyond the student's control prevent him or her from meeting specific out-of-class course requirements. Students have one year from the date of the last class meeting of the course to remedy their deficiencies in courses and thus receive grades. An incomplete course will be deleted from the student's record if not completed within the specified year.

W Withdraw: Indicates that the student withdrew from the course. Students may not withdraw after the tenth scheduled class meeting.

GRADE CHANGES

Once grades have been submitted to the Registrar's Office, grade changes can be made only if the instructor certifies in writing that the grade to be altered resulted from an error.

FULL-TIME STUDENTS

To be considered a full-time student in the Graduate School of Management, an individual must be registered for at least three courses in a given semester.

REVIEW OF GRADUATE STANDING

All student academic records are reviewed each semester. Students with cumulative grade point averages of 3.0 or more are considered to be in good standing. While the grade of C earned in a course is a passing grade, a cumulative grade point average of B is required for graduation. Thus, students whose cumulative grade point averages fall below 3.0 are not considered to be performing adequately. Students are placed on academic probation when they have taken four or more courses and their cumulative grade point average falls below 3.0. Students who remain on academic probation after taking eight courses may be dismissed from the M.B.A. program.

LEAVE OF ABSENCE

Students currently matriculated in the Graduate School of Management may take an official leave of absence for up to one year. Leave will be granted by the assistant dean for academic affairs on written application by the student. Leaves may be granted for a number of reasons relating to work, health, travel, or personal development. Students who do not register for classes in the semester following the leave of absence will be withdrawn from the Graduate School of Management. To regain admission, the student must reapply.

JOINT M.B.A./M.S.N. PROGRAM

In conjunction with the University of Massachusetts Medical Center's Nursing School, Clark's Graduate School of Management offers a program that leads to the M.B.A. and M.S.N. degrees. The program enables selected students to achieve both degrees by completing a rigorous and comprehensive two-year curriculum. Details about the program can be obtained by contacting the Graduate School of Management Admissions Office.

M.B.A. PROGRAM COURSES

Refer to Graduate School of Management Catalog for more information.

MBA 299 MATHEMATICS FOR MANAGERS

Competence in algebra and familiarity with calculus are required in many of the courses taught in Clark's M.B.A. Program. This course is designed to assist students whose skills in mathematics are undeveloped. All M.B.A./M.H.A. candidates must either complete the course or be exempted from it. The course is offered Pass/Fail and does not carry graduate credit. Six modules of instruction are included: a review of algebra, linear algebra, introduction to differential calculus, introduction to integral calculus, applied business mathematics, and computer software applications.

MBA 301 MANAGEMENT ACCOUNTING

Managers use accounting data to measure and evaluate organizational performance and to make decisions based upon their evaluations. This course introduces accounting as "the language of business" by identifying and discussing the generally accepted terminology and concepts. Topics include the accounting recording process, financial reporting and accounting principles, and the application of accounting information in managerial decision processes. Students are provided opportunities to enhance their analytic skills through practice in compilation, reformulation, and analysis of basic financial data.

MBA 302 STATISTICAL METHODS

In the increasingly competitive business environment, most firms have come to rely on quantitative methods for data analysis and decision making. This course emphasizes problem solving. Topics covered include probability theory, sampling theory, the central limit theorem, estimation, inference, hypotheses testing, regression analysis, and analysis of variance. Students learn how and when to apply these "tools" and how to interpret their results. (Corequisite: MBA 299)

MBA 303 MANAGEMENT ECONOMICS

To prepare managers to recognize and analyze the effects of changes in the economic environment on their firm and industry and to identify the consequences of public and private policy actions on key economic variables such as unemployment, real economic growth, and inflation. Cases stress relationships among economic thought, the political process, and public policy decisions. Topics include marginal analysis and partial optimization; supply and demand; Keynesian and Monetarist views of income and employment in closed systems; and the effects of balance of payments, foreign exchange rates, and international trade on economic policy.

MBA 304 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS)

One of the most important aspects of computing, management information systems, has had a significant effect on both operations and strategy. The systems are employed at all levels of management to achieve competitive advantage and to create new opportunities, products, and services. The objective of this course is to provide basic knowledge of the field of information systems. Topics include hardware, software, database management, data communication, systems analysis and design, and functional application areas, such as medicine, accounting, and manufacturing. Students also gain exposure to spreadsheet and database packages.

MBA 310 ORGANIZATION BEHAVIOR

This course focuses on how people behave as members of organizations. By systematically and scientifically studying individual and group behavior and processes, managers will be better able to understand, predict, and improve the performance of individuals and groups in order to make organizations function more effectively. The course draws on theories and empirical research from psychology, sociology, anthropology, and political science. Each of these sciences investigates a different level of human activity. For example, psychologists look primarily at the behavior of individuals; sociologists focus on the social interactions of groups; and political scientists focus on the behavior of individuals, groups, and institutions. *Organization Behavior* integrates these foci into a single area of study.

MBA 311 ORGANIZATION STRUCTURE AND PROCESS

This course is designed to provide an understanding of the basic nature of social interaction, to introduce a variety of perspectives on organization theory, and to apply those concepts to actual business problems. Topics covered include: the structure of organizations, normative organizational patterns, organizational processes (decision making, communications, etc.), and the relationship of these topics to such factors as size, complexity, technology, and environmental influences. (Prerequisite: MBA 310)

MBA 318 GROUP DYNAMICS

This class serves as a laboratory for the observation, analysis, and review of basic theories of group behavior. Topics explored include the fundamental properties of groups, leadership and the group, theories of group development, the development of trust, and application of theories to the improvement of decision making within groups. (Prerequisite: MBA 310)

MBA 320 ORGANIZATION DEVELOPMENT

This course is concerned with improving organizational performance through the application of applied behavioral science techniques. The focus of the course is on the variety of approaches organizations can use to function more effectively and on how organizations can be changed to adopt these approaches. The course surveys organization development concepts and techniques, such as team building, quality of work life, and action research. (Prerequisite: MBA 310)

MBA 322 CONSULTING STRATEGIES AND SKILLS

External consultants often are employed by management to analyze and resolve continuing corporate problems. This course takes a practicum approach to learning about the consultant's role. Students participate in actual projects and develop appropriate consulting skills. Topics covered include analysis of organizational problems, recommendations for change, and the design and implementation of tactical plans. (Prerequisite: MBA 310; MBA 318 is recommended)

MBA 325 HUMAN RESOURCE MANAGEMENT

Faced with pressures from the work force, increasing international and domestic competition, and government regulations, corporations must continually re-evaluate employment policies and practices. Managers must ensure that an organization's competitive strategy is compatible with the needs and concerns of personnel. This course covers general areas of human resource management, such as job design, recruitment, management development, performance appraisal, counseling, labor relations, collective bargaining, wages and fringe benefits, EEO and OSHA requirements, and manpower planning.

MBA 326 INDUSTRIAL RELATIONS

Broadly defined, industrial relations refers to the relationships between employees, unions, and employers. This course serves as an introduction to the concepts, theories, and practice of labor-management relations. Topics include: the development of the trade union movement; the structure, practices, and outcomes of collective bargaining; the administration of the collective bargaining agreement; disputes resolution procedures; and the evolution of public policy toward labor relations.

MBA 327 COLLECTIVE BARGAINING

Collective bargaining is a process by which representatives of labor and management seek agreement on the terms and conditions of employment. The public often has a vested interest in the process, especially when conflicts over terms of employment cannot be resolved at the bargaining table. Topics covered include the evolution of bargaining, theories of bargaining power and behavior, and relevant legislative frameworks. The range of bargaining issues is described, along with variations in bargaining units. The grievance procedure is examined with respect to the application and interpretation of agreements.

MBA 330 MARKETING MANAGEMENT

Marketing involves activities that prompt the transfer of goods or services from providers to users. The marketing efforts of businesses are similar to those of hospitals, universities, and symphonies. Though different in many respects, marketing techniques for businesses and nonprofit organizations are vital to both. *Marketing Management* provides a broad survey of these activities. Topics include: consumer behavior, market segmentation, product management and life cycles, promotion, pricing, distribution, and marketing strategy. International marketing is studied, as is the marketing of services. Marketing activities of nonprofit organizations are compared to traditional marketing practices. (Prerequisites: MBA 302 and 303)

MBA 331 MARKETING RESEARCH

This course is designed to provide a fundamental knowledge of how and why marketing research is used to solve marketing problems. Taking a managerial perspective, the course emphasizes research for marketing consumer goods and services. Topics include: problem identification and definition, research design, questionnaire design and construction, project implementation, sampling, data collection and interpretation, and presenting and reporting of research findings. Students undertake research projects for actual clients. (Prerequisites: MBA 302 and 330)

MBA 333 MARKET PRICING

A pricing strategy should be consistent with and reflect overall company objectives. Companies can use pricing strategies to gain market share, meet profit goals, or maintain the status quo. Companies may pursue more than one pricing objective at the same time and often re-examine pricing strategy in light of changes in the competitive environment. This course presents a management approach to pricing products and services in consumer, industrial, and "reseller" markets. Topics include: bargaining tactics, bidding strategies, pricing product lines for complex channels of distribution, life cycle and learning curve pricing, and intra-firm transfer pricing. (Prerequisite: MBA 330)

MBA 334 CONSUMER BEHAVIOR

Understanding consumer behavior is essential to defining and maintaining a market. This course examines the purchasing behavior of individuals and groups. Topics include: complex decision-making models, buying habits,

attitude theory, and the buying behavior of organizations. (Prerequisite: MBA 330)

MBA 335 INTERNATIONAL MARKETING

This course examines the problems that firms encounter as they enter international markets. The text and readings explore marketing problems facing joint venture and multinational firms, as well as the exporter and licensor. A range of marketing activities is covered in the context of international operations, including marketing research, product policy, pricing, distribution, promotion, planning, organization, and control. (Prerequisite: MBA 330)

MBA 336 MARKETING OF SERVICES

Highly competitive markets for service organizations, profit and nonprofit, require strict attention to the production/marketing interface, as well as to the traditional marketing mix. The course focuses on the marketing implications of service intangibility, the inseparability of production and consumption, and conflicting server roles. Current models of the service organization are presented with insight developed through readings, cases, and interviews. (Prerequisite: MBA 330)

MBA 337 INDUSTRIAL MARKETING

Firms that produce products for other manufacturers or service organizations rather than for consumers encounter special marketing problems. This course describes the problems encountered in industrial marketing and in allied functions, such as research and development, engineering, production, purchasing, and corporate planning. Topics include industrial product policy, pricing, promotion, and channels of distribution. (Prerequisite: MBA 330)

MBA 338 ADVERTISING AND PROMOTION

A component of the marketing mix, promotion is any form of communication intended to inform, persuade, or remind people of products or services. Advertising is any form of impersonal communication of ideas, goods, or services paid for by an identified sponsor and is one of the major types of promotion. The course focuses on advertising and publicity as the most common and useful forms of promotion. The course integrates international, legal, and ethical aspects of promotion and covers topics such as media selection, public relations, and personal selling. (Prerequisite: MBA 330)

MBA 339 MARKETING IN A HIGH TECHNOLOGY ENVIRONMENT

Rapid technological change coupled with a highly competitive environment require marketing strategies and tactics that are innovative and flexible. This course expands on the fundamentals of industrial marketing and describes their adaptation to technology-based markets and products, technology-fueled competition, and diminishing product life cycles. (Prerequisite: MBA 330)

MBA 340 FINANCIAL MANAGEMENT

We assume financial managers make decisions that will increase the value of the firm by optimizing the size and timing of cash flows and minimizing accompanying risks. The course covers the major issues confronting financial managers, including the determination of optimal methods of raising and investing funds. (Prerequisites: MBA 301, 302, 303)

MBA 341 CORPORATE FINANCE

This course extends the presentation of the theoretical issues in finance provided in MBA 340. The student is exposed to additional financial theories and gains practice in applying theories to actual problems through analysis of

case studies. The emphasis of this class is on the major, long-term financial decisions that managers face. Topics include risk, cost of capital, capital budgeting, and capital structure. (Prerequisite: MBA 340)

MBA 342 INVESTMENTS

This course covers investment principles, market behaviors, and investment strategies. Students examine the types of risks associated with and the returns available from marketable securities. In addition to studying stocks and bonds, the course provides a risk-return analysis of alternative investment vehicles, such as options and futures. Guest speakers from various sectors of the investment community present their views to the class. (Prerequisite: MBA 340)

MBA 345 INTERNATIONAL FINANCE

This course focuses on specific problems encountered by financial managers in corporations having international financial functions. Topics covered include foreign exchange risk, political risk, long-run investment and financing, working capital management, and financial control. (Prerequisite: MBA 340)

MBA 346 FINANCIAL INSTITUTIONS

This course analyzes the roles of banks and non-bank financial intermediaries in an advanced industrial economy. Topics include: the study of financial markets and institutions, the major financial intermediaries in the U.S. economy, interest rates and how they are set, government regulatory policies for financial institutions, and the impact of recent institutional and legislative changes on financial intermediaries. (Prerequisite: MBA 340)

MBA 347 MODERN PORTFOLIO THEORY

This course is structured to further the investment management skills of interested students. From a foundation of the efficient markets hypothesis and utility theory, theoretical investment models are developed. Discussion centers on simplifications of the model required for its implementation. (Prerequisite: MBA 340)

MBA 348 INTERNATIONAL INVESTMENTS

Opportunities for financial investments in international markets continue to proliferate. Every day, foreign investors make new acquisitions in the United States, while domestic companies look abroad for ways to expand market share. Through class discussions focused on current global economic conditions, the course reviews investment management techniques for individuals and companies. Topics include investment principles, market behavior, and investment strategy in the United States and global markets. (Prerequisite: MBA 340)

MBA 349 SPECULATIVE MARKETS

This course presents a practical approach to the study of speculative investments. The course focuses on stock options and futures as speculative vehicles and as risk-reducing strategies. (Prerequisite: MBA 340)

MBA 350 OPERATIONS MANAGEMENT

Operations management involves the efficient use of input to create goods or services that will satisfy the needs of customers and clients. In both the profit and nonprofit sectors, successful management requires economically rational decisions regarding the design and operation of processes that transform such inputs into goods or services. The course develops students' abilities to identify and structure operating problems and to identify appropriate techniques for

resolving them. Topics include: break-even analysis, modeling concepts, expected value theory, resource allocation methods, queuing theory, simulation techniques, inventory control, project management, scheduling, and sequencing. (Prerequisites: MBA 301, 302, 303, 304)

MBA 351 OPERATIONS RESEARCH

This course provides an advanced study of techniques useful in management decision making. Topics include: classical optimization techniques, linear and integer programming, network models, dynamic programming, queuing theory, Markov processes, and simulation methods. (Prerequisite: MBA 350)

MBA 352 SEMINAR IN MANAGEMENT INFORMATION SYSTEMS (MIS)

This course examines the role of information systems within the organization. Recent developments in theory and practice in MIS are emphasized, including conceptual foundations of information systems, office automation, decision support systems, the factory of the future, artificial intelligence and expert systems, and the management of information. An independent project is required. (Prerequisite: MBA 304)

MBA 354 STRATEGIC MANAGEMENT OF TECHNOLOGY

This course focuses on the technology dimension of competitive strategies and strategy-making processes. Through cases and readings, strategic management concepts are used to analyze those critical points where technology intersects other processes and functions of the business firm. The perspective taken is that of the nontechnically trained management dealing with technology issues of strategic importance to the firm. (Prerequisites: MBA 310, 330, 350)

MBA 355 PRODUCTION MANAGEMENT

To compete in the growing international marketplace, firms must be able to compete on the basis of manufacturing costs, productivity, and product quality. Production managers face complex decisions as they try to balance productivity and quality against cost. The course presents: (1) material requirements planning and manufacturing resource planning (MRP) and (2) distribution resource planning (DRP) as the systems underlying computer-integrated manufacturing. Topics include: the design of forecasting, production planning, inventory control, quality control systems, and the integration of these systems into the firm. (Prerequisite: MBA 350)

MBA 360 BUSINESS POLICY

This course focuses on the integration of major management functions (e.g., marketing, finance, and production) and the organizational processes for selecting and executing an appropriate competitive strategy. The course objectives are to develop skills for evaluating the impact of internal and external forces on an organization's strategic choices, to enhance understanding of unstructured decisions, to understand the relationship between corporate cultures and competitive strategies, and to assess the nature and importance of global strategies. (Prerequisites: MBA 310, 330, 340, 350)

MBA 362 BUSINESS IN SOCIETY

The contemporary manager is confronted with decisions complicated by social, political, technological, and ethical issues. This course examines the themes that underlie managerial decision making: core values and assumptions at the foundation of the U.S. business subculture, ethical issues that arise in the context of management decisions, and the impact of political environments on management decisions. Throughout the course, students consider and discuss the views of practicing managers. (Prerequisites: MBA 310 and 330)

MBA 370 MANAGERIAL COMMUNICATIONS

This course is designed to help managers communicate with confidence by showing them how to prepare clear and concise memos, letters, reports, and proposals, as well as how to deliver effective oral presentations. Through active class participation and in-class writing exercises, students develop confidence in their ability to communicate effectively.

MBA 371 SMALL BUSINESS MANAGEMENT

The entrepreneur encounters a unique set of problems in planning and developing a new business venture. This course emphasizes the skills needed to analyze existing markets and identify unexploited business opportunities. Topics include developing business plans, identifying financing strategies, and managing start-up operations. Students are exposed to entrepreneurial organizations and problems through case studies, field consultations with small business managers, and class presentations by entrepreneurs. (Prerequisites: MBA 310, 330, 340)

MBA 373 THE GENERAL MANAGER

Using research on the behavior of chief executive officers and leaders, this course examines the activities and roles of effective general managers. Topics include: developing mission and strategy, linking strategy to operations, building and coaching cross-functional business teams, achieving superior customer satisfaction, encouraging innovation, and assuring enlightened human resource practices. The course covers managers of large and multinational firms, small businesses, and nonprofit organizations. (Prerequisites: MBA 301 and 310)

MBA 374 INTERNATIONAL BUSINESS

International commerce is vital to U.S. prosperity. Corporations that expand their operations into the international arena must perform the traditional management functions (e.g., marketing, finance, and production), as well as activities unique to the management of an international entity. Topics include: international marketing and operations, overseas manufacturing, international banking and investment, and financial and political risk management. (Prerequisites: MBA 310, 330, 340)

MBA 375 INTERNATIONAL MANAGEMENT

Managers of firms that operate in international markets face unique problems involving economic, legal, political, and social issues. This course focuses on the interaction of the manager with the various constituencies and aspects of an international/multinational firm. (Prerequisites: MBA 303 and 310)

MBA 376 Senior Executive Seminar

The Senior Executive Seminar, offered jointly by Clark and Worcester Polytechnic Institute, gives Clark M.B.A. and M.H.A. students an opportunity to meet informally with CEOs, presidents, and upper-level executives. Each week a guest speaker conducts a two-hour seminar that includes an off-the-record question and answer period, with discussions continued over dinner. (Prerequisites: all background and core courses. Enrollment is limited.)

MBA 378 LEGAL ASPECTS OF MANAGEMENT

The legal framework within which American businesses operate determines both the rights and obligations of persons taking part in business transactions. Through case studies and selected readings, the course emphasizes those areas of the law commonly encountered by business managers: contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability.

MBA 379 PROJECTS IN MANAGEMENT

It is important for professional students to see for themselves how theories and techniques learned in the classroom are applied in actual organizations. *Projects in Management* is organized around projects provided by a variety of profit and nonprofit organizations in central Massachusetts. Teams of three to four second-year M.B.A. students are invited to work in these organizations as "consultants in training." Working with guidance from Clark faculty members and managers from the host organizations, the student teams analyze their assigned projects and recommend courses of action. Management, in turn, critically evaluates and responds to the students' proposals, in much the same manner that they respond to proposals from their own subordinates. (Enrollment limited)

MBA 380 MANAGERIAL ACCOUNTING, PLANNING, AND CONTROL

This course studies organizational planning and control and analyzes the ways in which management accounting practices can aid (and occasionally impede) planning and control processes. Topics include management control systems, key variables and performance measurements, organizing for control, budget planning, and measuring divisional performance. (Prerequisite: MBA 301; MBA 310 is recommended)

MBA 381 ACCOUNTING AND FINANCIAL ANALYSIS

The topics covered in this course are intended to increase skill levels in reading and interpreting financial statements and reports, reconstructing and restructuring financial data, using and interpreting basic analytical techniques for financial statement analysis, and communicating financial results, both orally and in writing. (Prerequisite: MBA 301)

MBA 382 ACCOUNTING INFORMATION SYSTEMS

This course explains the various control and accounting procedures used in collecting, measuring, summarizing, and reporting financial data generated by an organization's operating units. The course emphasizes procedural techniques and studies the flow of financial data through an organization's accounting system. (Prerequisites: MBA 301 and 304)

MBA 384 FEDERAL TAX

This is a basic course in the principles of federal income tax law pertaining to individuals and organizations. Students develop an understanding of the effect of tax considerations on business decisions. The course explores general rules and accounting principles, emphasizing preparation of tax returns through problem analysis. (Prerequisite: MBA 301)

MBA 386 COST MEASUREMENT AND CONTROL

This course studies how to collect and analyze cost data, methods of cost control, and the relevance of various accounting data for managerial decision making in manufacturing and nonmanufacturing organizations. Topics include: standards, standard costing, variance analysis, detailed budget preparation, cost accumulation procedures, and various cost control and performance evaluation issues. (Prerequisite: MBA 301)

MBA 396 SPECIAL TOPICS

Occasional and special purpose courses in management.

MBA 398 DIRECTED RESEARCH IN MANAGEMENT

Independent research on selected topics in management. Can be taken for one course credit with a faculty sponsor's approval and the approval of the assistant dean for academic affairs.

MBA 399 DIRECTED READINGS IN MANAGEMENT

Individual instruction under the sponsorship of a faculty advisor. Offered for one course credit. Restricted to topics not covered within other courses in the MBA curriculum. A faculty sponsor and the permission of the assistant dean for academic affairs.

THE MASTER OF HEALTH ADMINISTRATION PROGRAM

Reflecting the administrative and technological complexity of today's health systems, the Master of Health Administration Program combines the resources of Clark's Graduate School of Management and the Department of Family and Community Medicine of the University of Massachusetts Medical School. The program prepares graduate students for administrative careers in a wide range of health services and settings.

The Clark/UMass M.H.A. Program is oriented primarily toward students with significant prior work experience in any health field. However, exceptionally qualified applicants without sufficient experience in the health professions are admitted; internships in the health field are required of such students and are arranged by the director of the M.H.A. Program.

The program's faculty from Clark and UMass constitute a challenging group of teachers with professional and research experiences in health and medical care administration, community health services, and management.

The University of Massachusetts Medical School, located in Worcester, has the following health science programs: the M.D., the Ph.D. in Medical Sciences, the MS in Nursing (M.S.N.), and the M.P.H. in Epidemiology, offered under the auspices of the School of Public Health at UMass/Amherst. There are also medical residency programs and affiliated clinical education programs in a wide range of nonphysician health disciplines, such as biomedical engineering, nuclear medicine technology, nursing, occupational and physical therapy, pharmacy, and radiologic technology.

The Lamar Soutter Library of the UMass Medical School is a health sciences library containing an excellent collection of biomedical information. Its holdings include more than 120,000 volumes, 2,900 journal subscriptions, 22,000 units of microfilm, and 1,900 audiovisual items. This is the principal library resource for the M.H.A. Program.

CURRICULUM

The M.H.A. curriculum consists of seventeen courses, grouped into the following five categories:

Prerequisite Course

MBA 299 *Mathematics for Managers* (not for credit)

Required Background Courses

MBA 301 *Management Accounting*

MBA 302 *Statistical Methods*

MHA 320 *Health Systems*

Required Core Courses

MBA 310 *Organization Behavior*

MHA 330 *Principles of Epidemiology*

MHA 350 *Economic Aspects of the Medical Care Industry*

MHA 360 *Legal Aspects of Health Care Administration*

MHA 370 *Financial Management of Health Institutions*

MHA 380 *Health Systems and Institutions Policy Analysis*

MHA 390 *Health Care Management*

Required Field Project

MHA 400

Applied Field Project

Electives (five required)

MBA 304

Introduction to Management Information Systems (MIS)

MBA 330

Marketing Management

MBA 336

Marketing of Services

MHA 340

Health Care Strategic Planning

MHA 382

Hospital Administration

MHA 383

Ambulatory Care Administration

MHA 384

Hospital Quality Assurance

MHA 388

Health Problems and Health Systems in Developing Countries

MHA 399

Directed Readings

Students begin the M.H.A. Program by taking the prerequisite course and the ten required background and core courses. The capstone course, Health Systems and Institutions Policy Analysis MHA 380, should be taken following the nine other required background and core courses. This multidisciplinary course examines current policy issues affecting health institutions and systems. It encourages interchange among all program participants and frequently suggests relevant topics for individual applied field projects.

ELECTIVES

Students may select their five elective courses in order to focus on a particular aspect of health care management or to study the management of specific types of health institutions and programs. Examples of the former type include:

MBA 304

Introduction to Management Information Systems

MHA 340

Health Care Strategic Planning

MBA 330

Marketing Management

MBA 336

Marketing of Services

Elective courses that focus on different parts of the health field include:

MHA 382

Hospital Administration

MHA 383

Ambulatory Care Administration

In addition to the five electives, each student completes Applied Field Project (MHA 400), a faculty-supervised independent study designed to demonstrate the student's ability to apply health administration concepts to a problem of his or her choice. A top-level, health care manager serves as advisor on each project, providing the student guidance and assistance in addressing this problem.

MEETING TIMES

During the fall and spring semesters, classes are held on Clark's or the UMass Medical School's campus from 6 p.m. until 9 p.m. Classes meet once a week, Mondays through Thursdays. A summer session is held at Clark; classes meet in the same time period, but twice a week for seven weeks.

ACADEMIC POLICIES

GENERAL GRADUATION REQUIREMENTS

Candidates for the M.H.A. degree must meet the requirements of seventeen courses: one prerequisite course, three background courses, seven core courses, five electives, and an applied field project. Students must take a minimum of twelve courses to meet the residency requirement of the Clark/UMass M.H.A.

Program. Students normally are permitted a maximum of six years from the date of their initial enrollment in the M.H.A. Program to complete all requirements for the degree. The minimum grade point average required for graduation is 3.0 (B).

COURSE WAIVERS

Students may apply for waivers from four of the seventeen courses required for graduation. Courses that may be waived are limited to MBA 299, MBA 301, MBA 302, and MHA 320.

Course waivers are based on transcript reviews and/or examinations and are granted by the Clark/UMass M.H.A. faculty. Generally, a waiver reduces the number of courses the student must take. In some cases, a waiver will be granted subject to the requirement that the student pass an elective course in the subject area of the waived course. Typically, a waiver is granted when an entering student presents evidence of having passed an equivalent graduate-level course (or two or more baccalaureate courses) in the relevant subject area. Grades of at least B must have been earned in such courses. Waivers will depend in part on how recently a substitute course was taken.

TRANSFER CREDIT

Students enrolled in the M.H.A. Program may receive transfer credit for postbaccalaureate work. The sixteen-course requirement may be reduced by two courses for students who have appropriate graduate-level credits. Transfer credit is assigned only to elective courses. Grades of at least B are required for course work recently completed at schools accredited by the American Assembly of Collegiate Schools of Business (AACSB) or the Accrediting Commission on Education for Health Services Administration (ACEHSA). Transfer credit may be granted by examination for course work completed at unaccredited programs or taken more than five years prior to the date of application for transfer credit.

Prior approval of the faculty is required for transfer credit granted for courses taken after the student has matriculated in the M.H.A. Program. Normally, such approval is granted for appropriate course work that is not available at Clark/UMass.

Students who wish to receive waivers or transfer credits should submit a completed Request for Course Waiver or Transfer form to the director of the M.H.A. Program. Regardless of the number of courses transferred or waived, M.H.A. candidates must pass a minimum of twelve courses while matriculated in the Clark/UMass program.

OTHER POLICIES

Policies governing the use of grades and leaves of absence are the same as those described for the M.B.A. program.

M.H.A. PROGRAM ACCREDITATION

The joint Clark University/University of Massachusetts Medical School M.H.A. Program is accredited by the Accrediting Commission on Education for Health Services Administration (ACEHSA). ACEHSA was organized in 1968 and has, as of April 1989, accredited fifty-two graduate programs in the United States and Canada. The commission has seven corporate members:

- The American College of Health Care Administrators (ACHCA),
- The American College of Healthcare Executives (ACHE),
- The American College of Medical Group Administrators (ACMGA),
- The American Hospital Association (AHA),
- The American Public Health Association (APHA), and
- The Association of University Programs in Health Administration (AUPHA);

a joint seat is shared between the Canadian Hospital Association (CHA) and the Canadian College of Health Service Executives (CCHSE).

There is also one consulting member, the Association of Mental Health Administrators (AMHA). ACEHSA has been accorded formal recognition by the Council on Postsecondary Accreditation and the U.S. Department of Education.

M.H.A. PROGRAM COURSES

MBA 299 Mathematics for Managers

(See MBA Courses)

MBA 301 Management Accounting

(See MBA Courses)

MBA 302 Quantitative Methods

(See MBA Courses)

MBA 310 Organization Behavior

(See MBA Courses)

MHA 320 HEALTH SYSTEMS

This course should be one of the first taken in the M.H.A. Program because it provides a framework that enables the student to see the contributions that the other required courses make to health system management. Initially, this course examines various input-throughput-output models of health systems and discusses the information necessary to understand the variety of components and links. It then uses the systems approach to identify key issues in various health service sectors: for example, primary care, hospital services, and high-technology services. Discussions and student papers focus on key health policy issues related to health systems in the United States and other countries.

MHA 330 PRINCIPLES OF EPIDEMIOLOGY

Epidemiology focuses on understanding disease in human populations. This course focuses on the managerial uses of epidemiology and covers the basic principles and skills used by the epidemiologist to uncover and explain the distribution and determinants of disease. These include: description of disease by person, place, and time; principles of study design; and analysis and interpretation of epidemiologic data. To help students learn to evaluate studies critically, the course also provides concepts useful in evaluating health programs.

MHA 340 HEALTH CARE STRATEGIC PLANNING

Health care managers must constantly assess how well their institutions are meeting community needs in today's rapidly changing health care marketplace. Community health planning, strategic planning, and marketing all involve interrelated concepts and methods important for such assessments. This course focuses on planning practice and includes an in-depth examination of the following topics: health systems analysis; goal and priority setting; cost/effectiveness studies; and program development, implementation, and evaluation. Health status, service, and resource-based planning approaches are covered for both institutions and area-wide health systems. The course also analyzes actual plans.

MHA 350 ECONOMIC ASPECTS OF THE MEDICAL CARE INDUSTRY

The planning, regulation, and delivery of health services in the United States are constantly changing, largely in response to economic forces. This course introduces students to the basic concepts of macroeconomics and

microeconomics, then examines economic aspects of the health service system in terms of production, distribution, and institutional structure. Topics include determining demand for medical care, financing and delivery mechanisms and their effects, and the medical manpower market. The role of government planning and regulation of the medical care industry is also studied. Particular emphasis is given to an economic analysis of the major proposals to restructure the American medical care system. Prerequisite: MBA 302

MHA 360 LEGAL ASPECTS OF HEALTH CARE ADMINISTRATION

The legal system—especially the judiciary—has had a growing impact on health care management in recent years. As a result, managers should understand legal implications of various situations, both to recognize the need for legal assistance and to work productively with attorneys. As a survey of health law, this course incorporates a wide range of concerns from the business law side of health care delivery systems to the legal aspects of the provider-patient relationship. Its focus is the study of legal foundations, principles, and processes, including the origins of health law, individual and corporate liability, legal aspects of hospital administration, health legislative activities, and controversial medical/legal/ethical issues.

MHA 370 FINANCIAL MANAGEMENT OF HEALTH INSTITUTIONS

Financial decision making in hospitals and other health care institutions has become increasingly sophisticated in recent years. The efficient allocation of resources has become a priority, and financing now comes from varied sources. One objective of this course is to provide students with a working knowledge of financial and management control techniques. Another objective is to introduce students to financial management problems in health care institutions so they can work with financial information and make decisions. Key course content areas include: cost accounting, financial statement analysis, working capital, budgeting, management control, product line management, and managing by objectives. Prerequisites: MHA 350, MBA 301, MBA 302.

MHA 380 HEALTH SYSTEMS AND INSTITUTIONS POLICY ANALYSIS

Health care managers develop and implement policies for their institutions and often do so for communities, states, or even nations. These decisions involve a synthesis of the various disciplines represented in the M.H.A. curriculum as well as an understanding of institutional and governmental policy-making processes. This capstone course centers around case studies, including many “living case studies” presented in class by health care executives who share problems from personal experience. About half of these issues deal with national, state, or community health policy and the remainder with operational problems in health institutions. This course involves a high level of student participation. Topics for Applied Field Project MHA 400 are often suggested. Prerequisites: students should take the background and core courses prior to MHA 380.

MHA 382 HOSPITAL ADMINISTRATION

Since most health care expenditures go to hospitals, this sector of the health system interests many health care managers. This course looks at internal hospital problems and managerial responses. Specific topics include personnel management, equipment management, inventory control, policy and strategic planning, and financing. The course covers a variety of hospital types, from university teaching hospitals to small rural hospitals.

MHA 383 AMBULATORY CARE ADMINISTRATION

Ambulatory care is among the fastest growing sectors of the U.S. health system.

This growth is occurring in a variety of organizational settings, including free-standing health centers, health maintenance organizations, and hospital outpatient departments. Planning and managing this growth challenge is the ambulatory care manager. This course addresses both the health policy environment that promotes ambulatory care and internal management issues in ambulatory care organizations. Case studies are used, reflecting a variety of ambulatory care institutions and management problems.

MHA 384 HOSPITAL QUALITY ASSURANCE

This course reviews the development of hospital quality assurance, including comparisons with similar efforts in other industries. Health outcome-focused approaches to quality assurance are addressed in detail from both a theory and practice perspective. Students will analyze actual hospital data using standard computer software (no previous computer experience is required) and write a term paper on the results. Prerequisite: permission of instructor

MHA 388 HEALTH PROBLEMS AND HEALTH SYSTEMS IN DEVELOPING COUNTRIES

We live in an increasingly interdependent world in which U.S. business in general, and health institutions in particular, interact more and more with foreign countries. The international concerns of the health care manager range from purchasing equipment from foreign-based companies and managing personnel trained outside the United States to providing assistance to developing countries. An introduction to international health issues, this course examines health problems and health systems' responses in developing countries.

MHA 390 HEALTH CARE MANAGEMENT

Improving the effectiveness of complex health care organizations is the challenge of health administration. To do so, the manager must understand the relationships among corporate strategy, organizational structure and process, and internal management systems. This course covers some of the major managerial issues in health care, including strategic management, organizational structure and design, the job of the manager, management of professionals, management control systems, organizational culture, and the major organizational processes, such as leadership, decision making, budgeting, and implementation. Case studies are used to illustrate the concepts and premises of modern organization theory, the values they represent, and their application in health care situations. Often, the cases involve hospitals; however, other institutions (such as HMOs and health centers) may also be used, depending on class interest. Guest speakers may be invited to talk about managing their organizations.

MHA 399 DIRECTED READINGS

Students may design a directed readings course with individual faculty members in order to develop in-depth knowledge about a particular aspect of health care management. A faculty member's written approval of the specific topic is required before registration is permitted.

MHA 400 APPLIED FIELD PROJECT

A faculty-supervised independent study designed to demonstrate the student's ability to apply health administration concepts.

Mathematics and Computer Science

DEPARTMENT FACULTY

John F. Kennison, Ph.D., *chair*: topology, category theory
Salman Abdulali, Ph.D.: algebraic number theory, algebraic geometry
Don Cantor, Ph.D.: software engineering, expert systems
Arthur Chou, Ph.D.: differential geometry, theoretical computer science
Frederic Green, Ph.D.: computational complexity, theory of computation
David Joyce, Ph.D.: algebraic topology, combinatorics, computer science
Robert W. Kilmoyer Jr., Ph.D.: algebraic representation theory of groups, artificial intelligence
Lawrence E. Morris, Ph.D.: automorphic representations, algebraic geometry
Mark Muzere, Ph.D.: Lie algebra cohomology
Lee Rudolph, Ph.D.: low-dimensional topology, algebraic geometry
Natalia Sternberg, Ph.D.: applied mathematics, differential equations, scientific computing
Evelyn Vaskas, Ph.D.: algebra, number theory

UNDERGRADUATE PROGRAMS

The department supports undergraduate majors in computer science and in mathematics. The computer science program is described elsewhere in this catalogue, under the heading "Computer Science." The mathematics major is described below. The department also offers courses that play an important service role in other disciplines. (See the discussion "Courses for Nonmajors" below.)

THE MATHEMATICS MAJOR

In keeping with the liberal arts tradition, the mathematics major at Clark aims to provide a solid education in mathematical principles both for the student who wishes to apply mathematics in the everyday world, as well as for the student who wishes to proceed to graduate school in mathematics itself. In recent years, mathematics majors from the department have been accepted for graduate studies at schools such as Colorado, Maryland, Oregon, and Yale universities in mathematics, computer science, and economics. In addition, our graduates have been employed by the public and private sectors in statistics, mathematical modelling, and actuarial science, as well as in education etc.

The mathematics major is built around a core of fundamental courses. The advanced electives provide some flexibility and allow students to tailor the major to their needs. Following the description of the requirement there are suggestions for concentrations in pure mathematics, applied mathematics, and actuarial science.

DECLARING A MAJOR AND CHOOSING AN ADVISOR

The department has a system of advising to assist students with their course selections. A student must declare his or her major no later than the end of the sophomore year. At the time a major is declared, the student should select an advisor from the department faculty, who will sign the "declaration of major" form provided by the registrar. This advisor will help the student design the best program of courses to suit his or her goals. A department form is also completed at this time, and kept on file at the department office.

NOTICE ON CHANGES IN THE MAJOR

The requirements for the various tracks have been changed from those described in the 1988-90 Clark University Academic Catalogue. Students declaring a major after June 1, 1990, must satisfy the requirements listed below. Those who declared before June 1, 1990 may satisfy either the old requirements or these new requirements.

Note too that the syllabus for Math 130 has changed significantly. Students who have taken Math 130 prior to Fall 1990 should consult the department about how to adjust their programs to meet the new requirements.

REQUIREMENTS

Core Courses: These courses are prerequisites for the advanced courses and should therefore be taken as soon as possible. Math 172 should be completed by the sophomore year, or the junior year at the latest.

Calculus (Math 124, 125 or Math 120, 121)

(Math 110, 111, 112 also may be used) 2 courses

Linear Algebra (Math 130) 1 course

Intermediate Calculus (Math 131) 1 course

Intro to Modern Analysis (Math 172) 1 course

(Math 213, taken before 1990, may substitute for Math 172.)

Breadth Courses:

Modern Algebra (Math 225) 1 course

Two (2) Math electives (Math 103, 104, 105, 106, 114,
or any courses beyond Math 125) 2 courses

Depth Courses:

Three (3) additional courses at the 200 level 3 courses

Capstone:

Proseminar (Math 201 taken in the final semester) 1 course

Cluster:

A four-course cluster in a subject other than mathematics 4 courses

Total: 16 courses

SUGGESTED SPECIALIZATIONS IN MATHEMATICS

Pure mathematics is the study of mathematics for its own sake. Applications to other fields are not ignored, but they do not form the primary interest. Students planning to study mathematics in graduate school should consider programs in either pure or applied mathematics. Suggested courses include Math 214, *Modern Analysis*; Math 216, *Complex Analysis*; Math 226, *Modern Algebra II*; and Math 228, *Topology*. A cluster should be chosen that includes at least one course that uses mathematics heavily in order to ensure that some of the uses of mathematics are illustrated.

Applied mathematics is the study of mathematics for its applications to the natural or social sciences. The key to applied mathematics is the modeling of natural or social phenomena by mathematical techniques including differential equations, linear systems, and stochastic processes. Suggested courses include: Math 212, *Numerical Analysis*; Math 164, *Mathematical Models*; Math 214, *Modern Analysis*; Math 216, *Complex Analysis*; Math 217-218, *Mathematical Statistics*; and Math 244, *Differential Equations*. The cluster should be a substantial sequence of courses in a mathematically oriented science.

Actuarial Science is the study of finance and insurance. Study in this field

requires a firm grounding in mathematics and statistics and an understanding of economics and business management. Suggested courses include: Math 164, *Mathematical Models*; Math 213, Math 217-218, *Mathematical Statistics*; Math 244, *Differential Equations*; and a cluster in economics or business management.

HONORS PROGRAM

Majors in mathematics who maintain at least a 3.2 average (4.0 scale) in courses required for their major may apply for the departmental honors program. Application in writing must be received by the end of the junior year by a prospective honors advisor or by the chair of the department. Honors may be achieved in one of two ways:

1. A unified four-course sequence as a senior (some parts of which may consist of readings courses), followed by a comprehensive examination.
2. An honors thesis is to be presented at an oral defense or at a department seminar. This thesis may be an independent or joint research project, or an analytic dissertation. Supporting coursework may be required. The student registers for Math 299.8 for course credit for an honors thesis.

Upon satisfactory completion of the program the department may recommend graduation with honors, high honors, or highest honors.

MATHEMATICS/EDUCATION

The Mathematics/Education Program is for the student preparing to teach secondary school. The actual requirements for this program are being revised in response to a number of changes, including changes in the teacher certification process. If you are interested in teaching high school mathematics, start by pursuing the regular math sequence: Math 120,121 (or Math 124,125 or Math 110,111,112). *Theory of Numbers*, Math 104, also is recommended for this program. Consult the department *as soon as possible* about the status of this program.

COURSES FOR THE NONMAJOR

Mathematical Services: A variety of elementary mathematical needs are met by the *Math Workshop*, Math 10. Students work at their own pace and choose a program suited to their own needs. This is a noncredit course.

Math 100, *Precalculus*, covers logarithms, exponentiation, and trigonometry. It is intended for those preparing for Calculus. The department is experimenting with Math 110, 111, 112 as a possible alternative to Math 100, 120, 121.

Calculus Sequences: Knowledge of calculus is essential for any serious student of the natural sciences or mathematics. It also is used heavily in economics and has been applied extensively in other disciplines.

There are three calculus tracks:

Math 110, 111, 112	<i>Functions and Calculus</i>
Math 120, 121	<i>Calculus (Regular)</i>
Math 124, 125	<i>Honors Calculus</i>

Generally speaking, if a full year of calculus is required, then any of the above sequences may be used. If one semester of calculus is required, then either Math 124 or Math 120, or the two-semester sequence— Math 110, 111—would be appropriate.

Students will normally start calculus with Math 120, *Calculus I*, or Math 124, *Honors Calculus*; both are open to freshmen who pass the placement test. Students with less preparation are advised to take Math 110, *Functions and Calculus*, and continue with Math 111. The placement test is given during orientation and preregistration weeks, and other diagnostic tests are available for students who are uncertain about which courses to take. These placement

tests are available at the department office. Strong students are strongly advised to start with *Honors Calculus*, Math 124. This is usually a better option than omitting calculus, even if sufficient achievement is shown on the advanced placement test given in high school.

Other Courses: The department offers three courses in statistics (Math 147, Math 217, 218). The 200-level courses go more deeply into the theory of statistics and the proofs of the basic statistical theorems.

Linear Algebra, Math 130, has many applications in the natural and social sciences, as does *Statistical Methods*, Math 147. *Mathematical Models*, Math 164, discusses how mathematics is used in the social sciences.

Students who want to experience some of the beauty of mathematical reasoning at an elementary level might take Math 104, *Number Theory*, or Math 103, *Mathematical Games*.

CLUSTERS IN MATHEMATICS

Students majoring in other disciplines may want or require a cluster of courses in the discipline of mathematics. Clusters in math begin with Math 120-121, *Calculus*, or Math 124-125, *Honors Calculus*, followed by other courses, which vary depending on the application area. Courses with wide application include Math 130, *Linear Algebra*; Math 131, *Intermediate Calculus*; Math 164, *Mathematical Models*; and Math 217-218, *Mathematical Statistics*.

A reasonable math cluster for a computer science major would consist of Math 121, Math 130, Math 131, Math 170.

GRADUATE PROGRAM

Consult the department regarding the status of this program. The department offers courses leading to the degrees of master of arts and doctor of philosophy in mathematics. The requirement for the M.A. are:

(1) ten full courses at least eight of which must be on the 300 level. These courses usually include one or two full courses of Math 330—the writing of the master's thesis. They may include seminars and reading courses; (2) the basic courses, Math 316, 318, and 325. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question; (3) a master's thesis; and (4) an oral examination.

A student working toward a Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion of the Ph.D. preliminary examination.

The requirements for the Ph.D. follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisors by November of the second year. Students entering with a master's degree should discuss the examination with a department advisor immediately. Failure to take this examination at the appropriate time may result in the department not recommending a student for continued support. Scholarships, graduate instructorships, and new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision concerning this requirement will depend heavily upon the recommendation of the candidate's advisor.

All candidates for the M.A. and Ph.D. degrees in mathematics are required to serve as teaching assistants as part of the work for their degrees.

MATHEMATICS COURSES

10 THE MATH WORKSHOP

A noncredit course for students who need to improve their basic algebraic techniques before continuing. Consult the department for more details about mathematical services for students needing extra help.

Ms. Cotton/Offered every year

100 PRECALCULUS/Lecture

Intended for students planning to study calculus. Topics include basic set theory, functions and relations, geometric significance of real relations and functions with applications to rational and elementary transcendental functions, finding zeroes of functions, and solutions of inequalities. Students should have a solid grasp of elementary algebra. The prerequisite is a suitable score on the placement test.

Staff/Offered every semester

103 MATHEMATICAL GAMES/Lecture, Seminar

The mathematical theory of deterministic games whose players have complete information. Examples of such games include Hackenbush, Nim, and Go. Games of this type form ideal subject matter for formal analysis. The values of game positions have an algebraic structure and may be used as a foundation of a mathematical theory of numbers (the so-called surrealistic numbers). The course explores game theories of Grundy and Conway, the max-flow min-cut theorem and other graph-theoretic subjects, and numbers. No prerequisites other than high school algebra. This course is sometimes offered as a freshman seminar.

Mr. Joyce/Offered periodically

104 ELEMENTARY NUMBER THEORY/Lecture

An introduction to number theory, this course also aims to train students to understand mathematical reasoning and learn to write proofs. Topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, Diophantine equations, congruences, Fermat's theorem, and Euler's theorem (and some applications—e.g., calendar problems, magic squares, cryptology). Prerequisite: equivalent of Math 100.

Mr. Abdulali, Mr. Morris, Ms. Vaskas/Offered every other year

105 HISTORY OF MATHEMATICS/Lecture, Discussion

Explores major themes—calculation, number, geometry, algebra, infinity—and their historical development in various civilizations, ranging from the antiquity of Babylonia and Egypt through classical Greece, the Middle and Far East, and on to modern Europe. Analyzes the tension between applications of mathematics and its increasing tendency toward formalism. Presentations and discussions predominate in class.

This course satisfies the historical perspective.

Mr. Joyce/Offered every other year

110, 111, 112 FUNCTIONS AND CALCULUS I, II, III/Lecture, Discussion

These courses are designed for the nonmajor, or for the less well-prepared student. Differential and integral calculus are covered with applications to maximization problems, related rates, and graphing, as well as to social science. In Math 110, 111, trigonometric functions and theory are not covered in depth (so 110 and 111 are not recommended for majors in physics, chemistry, or mathematics, unless followed up by Math 112, which reviews trigonometry and

covers theory, trigonometric calculus, and sequences and series). Students may not receive credit for both Math 110 and Math 120, or for both Math 111 and Math 121.

Mr. Kennison/Offered every year.

114 DISCRETE MATHEMATICS/Lecture

This course studies mathematical structures that naturally arise in computer science. Topics include elementary logic and set theory, equivalence relations, functions, counting arguments, asymptotic complexity, inductively defined sets, recursion, graphs and trees, Boolean algebra and combinational circuits, finite state automata, and diagonalization and countability arguments. Proofs and problem solving are emphasized. Corequisite: CS 102 or Calculus.

Mr. Chou, Mr. Morris/Offered every year

120 AND 121 CALCULUS I AND II/Lecture, Discussion

Topics in part I include functions, sequences and limits, series, continuity, differentiation, mean value theorem, and various applications. Topics in Part II include motivation for, and definition of, Riemann sums and integrals; techniques and application of integration; improper integrals; transcendental functions, and Taylor series. In this course, rigorous statements and intuitive notions are distinguished carefully. Calculus is essential for majors in biology, chemistry, computer science, mathematics, physics, and ETS (Environment, Technology, and Society). Math 120 and 121 fulfill the formal analysis requirement. Prerequisite: Math 100 or an appropriate score on the mathematics placement test.

Staff/Offered every semester

124 and 125 HONORS CALCULUS I AND II/Lecture

This course is for mathematics majors and others who are interested in a deeper and more rigorous study of the topics considered in Math 120 and Math 121, and is strongly recommended for all mathematics majors and for students who have had previous experience with calculus. This course fulfills the formal analysis requirement. Prerequisites: An appropriate score on the mathematics placement test.

Mr. Abdulali, Mr. Morris, Mr. Rudolph/Offered every year

128 GEOMETRY/Lecture

This course begins with a discussion of Euclidean geometry and quickly proceeds to modern related topics. Such topics may include Hilbert's axioms of geometry, the parallel postulate, hyperbolic (Lobachevskian) geometry, elliptic geometry, projective geometry, models of such geometries and philosophical implications of their existence, finite geometries, Klein's Erlanger Programme, and automorphism groups of geometries. One of the aims of this course is to show the beauty of the deductive approach in mathematics. Prerequisites: The equivalent of Math 120 or Math 124.

Mr. Joyce, Mr. Kennison, Mr. Rudolph/Offered every other year

130 LINEAR ALGEBRA/Lecture, Discussion

This course is a prerequisite for Intermediate Calculus, and is a requirement for all mathematics majors. Topics include systems of linear transformations, minimum and characteristic polynomials, eigenvectors and eigenvalues, determinants and bilinear forms. Corequisite: Math 121 or 125. (Students who have previously had Math 119 or 133, or who took Math 130 prior to Fall 1990 should consult the department about this course.)

Staff/Offered every fall

131 MULTIVARIATE CALCULUS/Lecture, Discussion

Differential and integral calculus in several variables. Line and surface integration, Stokes' theorem. Prerequisites: Math 121 or 125, and Math 130. Staff/Offered every spring

147 PROBABILITY THEORY AND ITS APPLICATIONS/Lecture

The aim is to familiarize students with the probabilistic way of thinking, modeling, and problem solving, which underlie many disciplines in the social sciences and physical sciences, and in computer science. Different models of random phenomena are discussed. The course includes various probability distributions, Markov Chains, and stochastic processes. Rather than focusing on methods and formulae, this course emphasizes intuition and basic ideas. Applications are made to statistical estimation, queuing theory, probabilistic analysis of computer performance and algorithms. Prerequisite: Math 121 or Math 125.

Mr. Chou, Mr. Kennison/Offered every other year

164 MATHEMATICAL MODELS/Lecture

Mathematics is widely used (and misused) to model phenomena of all sorts. Mathematical models can be descriptive or predictive, deterministic or nondeterministic, dynamic or static, stable or chaotic. Students in this course construct models and critique each other's constructions as well as examples from the literature. Special attention is paid to issues of measurement, robustness, and sensitive dependence on initial conditions. Prerequisites: one year of calculus, or one year of programming plus one semester of calculus. Mr. Joyce, Mr. Kennison, Mr. Rudolph/Offered periodically

170 LOGIC/Lecture

The propositional calculus and the first-order predicate calculus, which consist of a symbolic language and a method of proving statements made in that language, are constructed and discussed predominantly in relation to mathematical questions such as consistency and completeness. Recursive functions. Prerequisite: one year of calculus or permission of instructor. Staff/Offered every other year

172 INTRODUCTION TO MODERN ANALYSIS/Lecture

This course introduces analytic concepts that provide a language and unifying framework for theories encountered in different areas of mathematics. Students learn how to understand, formulate, and prove mathematical statements. Ideas first encountered in calculus are extended and studied using topological methods. Topics include convergence, metric and normed spaces, compactness, completeness, and Lebesgue integrals. Students who completed Math 125 (or who did well in Math 121) are encouraged to take Math 172 in the sophomore year. All math majors must take Math 172 by the junior year at the latest. Corequisite: Math 130.

Staff/Offered every year

201 PROSEMINAR IN MATHEMATICS/Seminar

The presentation of topics in mathematics by and for senior undergraduates. These presentations acquaint students with diverse subjects, introduce them to researching known topics, and give them practice in presenting material in front of their peers. Faculty members present surveys of their research areas. Possible topics include: category theory, knot theory, automorphic forms, topos theory, low-dimensional topology, class field theory, group representation theory, and dynamical systems. This is a capstone course in mathematics. Staff/Offered every spring

212 NUMERICAL ANALYSIS/Lecture

Addresses the needs of students in mathematics and the sciences who are planning to do scientific computing. The goal of the course is to teach students how to set up reasonable computational algorithms and then to use the algorithms to work on actual projects. Topics covered include approximation theory, error analysis, numerical differentiation and integration, and solution of ordinary differential equations and linear systems. Prerequisites: Math 130 and Math 172.

Mr. Chou, Ms. Sternberg/Offered every year

214 MODERN ANALYSIS/Lecture

Ideas introduced in Math 172 are developed further and applied to various scientific models. Topics include Hilbert spaces, L_p spaces, Fourier series, Weierstrass approximation theorems, and linear operators. Prerequisites: Math 130 and Math 172.

Ms. Sternberg/Offered every other year.

216 INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE/Lecture

An introductory course designed for undergraduate science majors as well as mathematics majors. Cauchy's theorem, power series, Laurent series, the residue theorem, harmonic functions, and physical applications, such as problems in two dimensional flow, are among the topics to be covered. An introduction to Riemann surfaces if time permits. Prerequisite: Math 131 and Math 172.

Mr. Rudolph/Offered every other year

217 and 218 MATHEMATICAL STATISTICS I AND II/Lecture

Designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems are stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination. Prerequisite: Math 131.

Mr. Muzere/Offered every year

225 MODERN ALGEBRA I/Lecture

The concepts of abstract algebra are introduced through concrete problems from number theory. In the nineteenth century, Kummer realized that the unique factorization of integers into primes breaks down in certain rings of algebraic integers. To get around this difficulty, he invented "ideal numbers" which led to the modern theory of rings and ideals. This course discusses unique factorization and ideal theory in rings, with emphasis on Euclidean domains. Other algebraic structures, such as groups and fields, also are introduced. This course is required for all math majors. Prerequisite: Linear Algebra, Math 130. Students who took Intermediate Calculus, Math 130 before 1990, should consult the department.

Mr. Abdulali, Mr. Morris/Offered every year

226 MODERN ALGEBRA II/Lecture

Early in the nineteenth century, Abel showed that there is no general algebraic formula for the solution of an equation of degree 5 or more. In order to determine whether or not a given polynomial is solvable, Galois developed group theory. Today, group theory is indispensable in almost every branch of mathematics, as well as parts of physics and chemistry. The main focus in this

course is group theory and Galois theory. Other possible topics include canonical forms of matrices and modules. Prerequisite: Math 225.

Mr. Abdulali, Mr. Morris/Offered every other year

228 TOPOLOGY/Lecture

Homology theory is the proper context for Stokes' theorem from Math 131. In this course, we continue the study (begun in Math 131 and Math 172) of the topological properties of subsets of Euclidean space, by developing algebraic tools such as homology and fundamental groups. Further topics may include fixed-point theory, the Jordan curve theorem, and knot theory—as time permits. Prerequisites: Math 131 and Math 172.

Mr. Morris, Mr. Rudolph/Offered every other year

244 DIFFERENTIAL EQUATIONS/Lecture

Most of the ordinary differential equations that occur in mathematical models of physical, chemical, and biological phenomena cannot be solved analytically. Numerical integrations do not lead to a desired result without qualitative analysis of the behavior of the equation's solutions. The goal of this course is to study the flow of scalar and planar ordinary differential equations. Stability and bifurcation are discussed. Prerequisite: Math 130 and Math 172.

Ms. Sternberg/Offered every other year

GRADUATE COURSES IN MATHEMATICS

The following courses are all offered periodically, on an independent basis. For further information, please consult the department.

300	<i>Set Theory</i>
316	<i>Functions of a Complex Variable</i>
318	<i>Functions of a Real Variable</i>
321	<i>Algebraic Topology</i>
325	<i>Advanced Modern Algebra</i>
326	<i>Selected Topics in Complex Analysis</i>
327	<i>Functional Analysis</i>
330	<i>Master's Thesis</i>
335	<i>Selected Topics in Algebra</i>
341	<i>Differential Equations</i>
358	<i>Category Theory</i>
376	<i>Representation Theory of Finite Groups</i>
381	<i>Seminar in Complex Variables</i>
382	<i>Seminar in Abstract Analysis</i>

Peace Studies

PROGRAM FACULTY

Ortwin Renn, Ph.D., *chair, 1990-91*: decision analysis, conflict resolution, risk analysis, ETS

Joseph H. deRivera, Ph.D., *chair, 1991-92*: emotions, social psychology and the prevention of nuclear war

Glen Gersmehl, M.A., *coordinator*: international security policy, peace movement strategies, racism and diversity, Vietnam War

Cynthia Enloe, Ph.D.: women and politics, militarization, comparative politics
 James T. Hannon, Ph.D.: social movements, religion, political socialization
 Christoph Hohenemser, Ph.D.: arms control and disarmament, nuclear power, environmental policy
 George Lane, M.A.: U.S. foreign policy, arms control, Middle East history and politics
 Douglas J. Little, Ph.D.: U.S. diplomatic history, America since 1900, modern Latin America, Middle East
 Robert J. Ross, Ph.D.: urban political economy, political sociology, social movements
 Ann Seidman, Ph.D.: international division of labor, South Africa
 Zenovia A. Sochor, Ph.D.: Soviet Union, comparative politics
 Stefan Tanaka, Ph.D.: Japanese history, intercultural relations
 Shelly Tenenbaum, Ph.D.: race and ethnicity, Holocaust studies, social stratification
 Barbara P. Thomas-Slayter, Ph.D.: rural organization, women and public policy, peasant behavior
 Nicholas S. Thompson, Ph.D.: relationship between competition and cooperation in biological systems
 William B. Vogeley, Ph.D.: international relations and organizations, international security
 Theodore H. Von Laue, Ph.D. (emeritus): global perspectives in history

PROGRAM AND CONCENTRATION

Peace Studies at Clark offers an academic concentration open to undergraduates in any major, and includes a Peace Institute that sponsors research and public service. Peace studies is concerned with analyzing and transforming individual behavior, national policy, and human institutions to promote peace and justice in the world. The program promotes discussion and study on issues of conflict, human rights, social justice, cultural diversity, environmental protection, citizen responsibility, and international security.

Undergraduates may concentrate in peace studies as a complement to their regular major in any field. The concentration draws together the knowledge of several disciplines in the context of the search for peace, while enhancing students' critical thinking skills and awareness of global issues. Departments or programs represented in peace studies include ETS, government, history, international development, psychology, and sociology.

Students with course work in peace studies have gone on to careers and graduate study in such fields as public policy, international development, environment and ecology, international relations, education, psychology, and the sciences. They join the "critical mass" of informed citizens who are prepared to take an active role in shaping constructive policies in the public sector and civil society.

The activities of the concentration are supported in part by the Peace Institute, which sponsors peace-related research, community service programs, student services, forums on peace and international issues, and other projects. The Institute enables students and faculty to apply their theoretical understanding of the issues of peace to practical situations.

Student services available through peace studies include internship information, job and career counseling, a resource center of 4,800 volumes, 80 periodicals on peace and international issues, and a computer link to more than 60 data bases, conferences, and bulletin boards.

Students who concentrate in peace studies will have the concentration listed on their final transcript.

REQUIREMENTS:

Students who wish to concentrate in peace studies are required to take at least one course in each of the following fields:

1. Nuclear and conventional conflict
2. Social and environmental justice
3. Citizen action
4. Pluralism and community

In addition, students must take either an internship, a directed reading, research, or a capstone course (bringing the minimum number of courses required for the concentration to five).

COURSES

The following is a partial list of Clark's peace studies course offerings. Students may petition the Peace Studies Academic Committee to receive concentration credit for courses other than those listed below. More information can be obtained from participating faculty or from the Peace Studies Office, JC 319, (508) 793-7663.

111 SURVEY OF PEACE STUDIES

In this interdisciplinary effort to analyze the nature of conflict and the means to create a more peaceful world, particular attention is paid to the relationship between the personal, societal, and international dimensions of conflict. Topics studied include the connection between arms production and world poverty, ways of coping with violence in social relations, and current efforts to control nuclear weapons, resolve international conflict, protect the environment, and guarantee human rights.

Staff/Offered periodically

NUCLEAR AND CONVENTIONAL CONFLICT COURSES

120 THE NUCLEAR AGE

Refer to course description under Environment, Technology, and Society 120.
Mr. Hohenemser/Offered every year

173 POLITICS OF WAR AND PEACE

Refer to course description under Government 173.
Mr. Vogeles/Offered every other year

234 SEMINAR: ARMS CONTROL

Refer to course description under Government 234.
Mr. Lane/Offered every other year

288 PROSEMINAR: THE ATOMIC BOMB

Refer to course description under History 288.
Mr. Tanaka/Offered every other year

SOCIAL AND ENVIRONMENTAL JUSTICE COURSES

125 DEVELOPMENT PROBLEMS

Refer to course description under International Development 125.
Ms. Thomas-Slayer/Offered every year

160 CONFLICT RESOLUTION

Refer to course description under Environment, Technology, and Society 160.
Mr. Renn/Offered periodically

CITIZEN ACTION COURSES

170 SOCIAL PSYCHOLOGY

Refer to course description under Psychology 170.
Mr. deRivera/Offered every year

185 PROTEST AND POLICY: PEACEMAKING FROM THE '60s TO '90s

This course examines controversies in U.S. foreign and military policy from Vietnam to the present and the impact of citizen group activity on them. Cases include antiwar protest, student strikes following the invasion of Cambodia; opposition to the Reagan administration's military buildup, Central American policy, and nuclear testing; the environmental movement; and responses to new trends in Europe. Also see listings under Government 185 and Sociology 185 in the College of Professional and Continuing Education catalogue.
Staff/Offered periodically (in the summer)

265 SOCIAL MOVEMENTS

Refer to course description under Sociology 265.
Mr. Hannon, Mr. Ross, Staff/Offered periodically

PLURALISM AND COMMUNITY COURSES

204 THE HOLOCAUST: A STUDY OF GENOCIDE

Refer to course description under Sociology 204.
Ms. Tenenbaum/Offered every year

228 COMPARATIVE POLITICS OF RACE, ETHNICITY, AND GENDER

Refer to course description under Government 228.
Ms. Enloe/Offered every other year

252 RACE AND AMERICAN SOCIETY

Refer to course description under Sociology 252.
Ms. Tenenbaum/Offered every year

INTERNSHIPS, DIRECTED READINGS, RESEARCH AND CAPSTONE COURSES

285 CAPSTONE: SPECIAL TOPICS IN PEACE STUDIES

The content of this course varies. It may be taught in conjunction with a directed reading or with other peace studies courses. Topics include theories and techniques of conflict resolution; strategies and effectiveness of various interest groups working for peace; nonviolent resistance and other approaches to peacemaking; and the connection between interpersonal, intergroup, cultural, and international dimensions of conflict and peacemaking.
Staff/Offered periodically

Students concentrating in peace studies are encouraged to consider an internship with a peace and justice organization for their fifth concentration requirement. The Peace Studies office has information about several dozen such internships in Worcester, Boston, New York, Washington DC, and elsewhere.

Philosophy

DEPARTMENT FACULTY

Patrick G. Derr, Ph.D., *chair*: philosophy of science, medical ethics, history of modern European philosophy, metaphysics

Judith W. DeCew, Ph.D.: philosophy of law, social and political philosophy, ethics, modal logic

Gary E. Overvold, Ph.D.: contemporary continental philosophy, interdisciplinary studies, epistemology, and cultural history

Michael Pakaluk, Ph.D.: ancient philosophy, analytic philosophy, Hume, philosophy of psychology, philosophy of love and friendship

Christina Sommers, Ph.D.: history of ethics, history of philosophy, contemporary moral theory, philosophy of literature

Walter E. Wright, Ph.D.: nineteenth-century philosophy, ethics, philosophy of religion, German idealism

ADJUNCT FACULTY

Bernard Kaplan, Ph.D., Professor of Psychology

AFFILIATE FACULTY

Barbara Carlson, C.Phil.: logic

Sydney Thomas, Ph.D.: epistemology, aesthetics, feminist philosophy

UNDERGRADUATE PROGRAM

The Philosophy Department offers both a traditional major program and a variety of elective courses, which can enhance the student's critical skills and intellectual breadth. Some of these can be used to fulfill *Program in Liberal Studies* requirements. Others are special electives designed to complement the studies of students in certain other major programs or with particular preprofessional interests (for example, Philosophy 133, 169, 241).

Students who want to fulfill a cluster requirement using philosophy courses are encouraged to take an introductory course (102 is recommended), two courses in the history of philosophy (141 and 143 are recommended), and at least two advanced 200-level courses. The advanced courses should be selected to complement the student's academic major and career interests.

For students who are motivated to undertake significant independent research, the department offers a *Senior Thesis Program* (299) and a variety of *Advanced Topics in Philosophy* courses (297). Students interested in these possibilities should consult with individual members of the philosophy faculty.

Honors, high honors, or highest honors in philosophy may be conferred at graduation upon majors who, in addition to having compiled a superior record in their major studies, successfully complete a senior thesis and an oral thesis defense.

Students who would like more information about the courses, programs, and faculty of the Philosophy Department are invited to pick up a copy of the handbook, *A Student's Guide to Philosophy at Clark*, which is available in the department office. The Philosophy Department is part of the Alice Coonley Higgins School of Humanities.

MAJOR REQUIREMENTS

A major in philosophy includes course requirements in philosophy and related fields. The requirements are designed to ensure exposure to the major systematic fields within philosophy, to ensure familiarity with advanced

analytic and logical methods, to acquaint the student with the history of the discipline, and to provide faculty-student contacts within the context of advanced seminars and individual projects. The requirements are:

1. Philosophy Courses

Total of at least eight courses, including:

- a. Logic: at least one of 110, 160
- b. History of Philosophy: at least two of 141, 142, 143, 145
- c. Epistemology: at least one of 240, 241, 287
- d. Metaphysics: at least one of 234, 235, 263
- e. Ethics: at least one of 220, 221, 228, 270
- f. Advanced elective: at least one of 140 - 299
- g. Capstone: one seminar taken in the senior year

2. Cluster of Related Courses

A cluster of related courses is defined as six courses, taken in one or more departments or programs, that form a coherent intellectual group. At least four of the six courses must be at an intermediate or advanced level. Clusters can be chosen from among the following areas or departments:

Biology, Chemistry, Physics, or ETS

English or Comparative Literature

Foreign Languages and Literatures

Geography, Government, or International Development

History, Ancient Studies, Judaic Studies, or Classics

Mathematics or Computer Science

Management or Education

Psychology, Sociology, or Economics

Visual and Performing Arts

Women's Studies or American Studies

THE SOCIETY FOR PHILOSOPHY AND PUBLIC AFFAIRS

The Clark University Department of Philosophy houses the New England Chapter of the Society for Philosophy and Public Affairs (S.P.P.A.). This is a national organization that works to promote the application of philosophical methods and insights to the consideration of such public issues as medical ethics, criminal justice, civil disobedience, pornography and censorship, economic justice, and affirmative action. The society sponsors frequent colloquia, symposia, and conferences on public policy issues. Inquiries concerning its activities may be directed to the department.

IDEALISTIC STUDIES

The international philosophical journal, *Idealistic Studies*, is edited by Walter Wright with the assistance of the other faculty of the Department of Philosophy. Founded by Robert N. Beck, *Idealistic Studies* has become one of the world's leading professional journals for the discussion and analysis of themes and problems arising within the context of the idealist tradition in philosophy.

THE PHILOSOPHY CLUB

Students interested in philosophy and philosophical dialogue, whether majors in the department or not, are invited to join the Philosophy Club. This student-led organization meets regularly with invited speakers and faculty to discuss topics chosen by its members. Information on the club is available from the department.

COURSE NUMBERS AND LEVELS

100-119 Introductory courses for all students; no prerequisites.

130-139 Courses in applied ethics for all students; no prerequisites.

- 140-149 Survey courses in the history of philosophy (at least two are required for the major); usually no prerequisites.
- 150-199 Intermediate courses in various areas of philosophy; usually one prerequisite.
- 200-219 Advanced courses in various systematic and historical areas of philosophy; usually two prerequisites.
- 220-229 Advanced courses in systematic ethics; two prerequisites.
- 230-239 Advanced courses in systematic metaphysics; two prerequisites.
- 240-249 Advanced courses in systematic epistemology; two prerequisites.
- 250-289 Seminars on individual philosophers or philosophical issues; two or more prerequisites.
- 290-299 Advanced topics; individual research; senior thesis; capstone seminar; and other small, intensive courses in philosophy; usually four to six prerequisites.

INTRODUCTORY COURSES

102 INTRODUCTION TO PHILOSOPHY/Lecture, Discussion

Introductory study of typical problems drawn from philosophy's main branches. Topics often include God's existence, the nature of morality, skepticism, freedom vs. determinism, immortality, and political theory. Readings are taken from both classic and contemporary sources.

Mr. Derr, Mr. Overvold, Ms. DeCew, Mr. Pakaluk, Mr. Wright/Offered every semester

103 ANALYTIC REASONING/Lecture, Discussion

Major emphasis is given to the analysis of argumentative essays (drawn from newspapers, philosophical works, legal journals, and popular magazines) on such topics as affirmative action, the problem of evil, the nature of law, scientific method, etc. The class analyzes the material with an eye to its cogency and persuasiveness, identifying its premises and conclusions, assumptions and implications. The course helps students to read, write, and think in a more analytical and critical manner.

Mr. Overvold, Ms. Carlson/Offered every semester

105 PERSONAL VALUES/Lecture, Discussion

A philosophical study of some fundamental human problems: Is there a God? Why should we be moral? Should we permit or choose abortion, mercy killing, or suicide? Do communities have a right to ban pornography? What moral duties do children have toward their parents? Can civil disobedience, war, or terrorism be morally justified? What moral issues are at stake in truthfulness, sexual integrity, and love? The students learn some important moral theories and the methods used to reason philosophically about moral questions.

Ms. Sommers, Ms. DeCew, Mr. Thomas/Offered every semester

110 INTRODUCTION TO LOGIC/Lecture, Discussion

An introduction to logic as both a practical skill and a branch of philosophy. The student is introduced to the principles, methods, and philosophical foundations of logical reasoning, with special attention to symbolic technique.

Mr. Pakaluk/Offered every semester

INTERMEDIATE COURSES

130 MEDICAL ETHICS/Lecture, Discussion

An investigation of contemporary issues in medical ethics: informed consent,

definitions of death, treatment termination and euthanasia, abortion, confidentiality and truth telling, genetic testing and counseling, research on human subjects, the allocation of scarce medical resources, in-vitro fertilization, surrogate parenting, and national health policy. Not open to freshmen.

Mr. Derr/Offered every year

132 SOCIAL AND POLITICAL ETHICS/Lecture, Discussion

Topics in social and political theory, such as equality, liberty, and justifications for political authority, as well as issues such as: What is affirmative action, and can it be morally justified? Should governments censor pornography? Is capital punishment acceptable? Can war be justified? Should morality be legislated? Should anything else be legislated?

Ms. DeCew/Offered every year

133 BUSINESS ETHICS/Lecture, Discussion

Investigates moral problems in and about the world of business: Do corporations have moral responsibilities, or is their only social responsibility to increase profits? Is capitalism morally justifiable, or is some other politico-economic system morally preferable? The course also discusses ethical issues in advertising, affirmative action, and business's responsibilities toward the environment.

Ms. Sommers/Offered every year

136 LEGAL ETHICS/Lecture, Discussion

Considers a variety of ethical problems that arise within and about the legal system: the relation between law and morality, the social responsibility of lawyers and judges, the justifiability of judicial activism, the morality of the insanity defense, and issues in professional ethics (such as lawyer-client confidentiality).

Ms. DeCew/Offered every other year

139 WOMEN AND PHILOSOPHY/Lecture, Discussion

Attention is given to the prevalent images of women in the history of Western philosophical thinking, including glimmerings of feminism in Mill, Wollstonecraft, and others. The course also looks at issues in contemporary philosophy that particularly affect women, including debates about sexual differences, the meaning of liberation, and the status of feminism as a social ideal.

Ms. Thomas-Slayter/Offered every other year

141 SOCRATES, PLATO, AND ARISTOTLE/Lecture, Discussion

Examines the origins of Western thought in early Greek philosophy. Readings include the fragments of the Pre-Socratic philosophers; the *Apology*, *Phaedo*, *Gorgias*, and *Republic* of Plato; and selections from the *Organon*, *De Anima*, *Physics*, *Metaphysics*, and *Ethics* of Aristotle.

Mr. Pakaluk/Offered every year

142 HISTORY OF MEDIEVAL PHILOSOPHY/Lecture, Discussion

A survey of medieval philosophy with special attention to some of the philosophical texts that were pivotal to the later development of Western philosophy and culture. These include Augustine's *Confessions*, Boethius' *Consolation of Philosophy*, Aquinas' *Summa Theologica*, and Maimonides' *Guide for the Perplexed*.

Mr. Pakaluk/Offered every other year

143 HISTORY OF MODERN EUROPEAN PHILOSOPHY/Lecture, Discussion
The two great movements in modern Western thought—Continental rationalism and British empiricism—are examined from their common origin in Descartes, through their later articulations by Locke, Berkeley, Spinoza, Leibniz, and Hume, to their eventual transformation by Immanuel Kant. Particular emphasis is given to the interaction of philosophy and science and to the powerful influence exerted by the modern European thinkers upon contemporary thought.

Mr. Derr/Offered every year

145 HISTORY OF CONTEMPORARY PHILOSOPHY/Lecture, Discussion
A survey of the major trends in recent Anglo-American and Continental philosophy: pragmatism, logical positivism, ordinary language philosophy, hermeneutics, critical theory, and phenomenology. Each alternative is considered as a coherent perspective on experience, with special attention given to its style and methodology. Prerequisite: Philosophy 143 or permission of the instructor.

Mr. Overvold/Offered every year

148 HISTORY OF AMERICAN PHILOSOPHY/Lecture, Discussion
This is a survey of important philosophical ideas in the United States with emphasis upon their relationship to the American experience. Prerequisite: one course in philosophy.

Ms. Thomas/Offered periodically

150 PHILOSOPHY OF RELIGION/Lecture, Discussion
Considers the nature of religion as revealed by the examination of religious experience. Emphasis is given to the effect of contemporary knowledge on our understanding of religion. Prerequisite: one course in philosophy.

Mr. Wright, Mr. Pakaluk/Offered every year

154 RECENT EUROPEAN PHILOSOPHY/Lecture, Discussion
Introduces four contemporary European philosophical movements: hermeneutics, deconstructionism, critical theory, and structuralism. Prerequisite: one course in philosophy or permission of instructor.

Mr. Overvold/Offered every other year

156 PHILOSOPHY IN LITERATURE/Lecture, Discussion
Considers philosophical issues and problems presented in selected literary texts. Topics vary with the texts, but typical issues are the nature of the self, the purposes of human life, and the nature of the human community. Prerequisite: one course in philosophy.

Ms. Sommers/Offered periodically

160 INTERMEDIATE LOGIC/Lecture, Discussion
Emphasis is on formal principles of deductive rigor with some consideration of the philosophical implications of logic. Topics may include: Tarski's definition of truth, selected metatheorems, modal and deontic logics, and other alternative logical systems.

Mr. Wright, Ms. DeCew/Offered every year

169 AESTHETICS/Lecture, Discussion
Why did Plato condemn artists and their work? Can art really be as neatly categorized as Aristotle claims? Is art "experience," "emotion," or something else altogether—as suggested by Dewey, Croce, and Santayana? Among the

theories of art that we consider are those of Arnheim, Sartre, Langer, Fischer, Collingwood, and Nietzsche. Prerequisite: one course in philosophy.
Ms. Thomas/Offered every other year

ADVANCED COURSES

203 SURSEMINAR: TEACHING PHILOSOPHY/Seminar

Registration is limited to those students selected to work as discussion group leaders in Philosophy 102, 105, or 130. Variable credit.
Mr. Derr/Offered every year

207 SURSEMINAR: PHILOSOPHICAL JOURNALS/Individual Project

An introduction to the process of scholarly journal production through work on the international philosophical journal, *Idealistic Studies*. Variable credit.
Mr. Wright/Offered every year

210-212 INTEGRATIVE STUDIES/Lecture, Discussion

These courses examine a philosophical issue in its historical, cultural, and thematic context, using a multidisciplinary perspective to integrate topics in related areas of inquiry and expression. Courses include: (210) *Modernism in Philosophy, Literature, and the Arts*; (211) *Existentialism in Philosophy, Literature, and the Arts*; (212) *Philosophy and the Human Sciences*. Prerequisite: two courses in philosophy plus courses in related areas.
Mr. Overvold/Offered periodically

210 MODERNISM IN PHILOSOPHY, LITERATURE AND THE ARTS/Lecture, Discussion

Between, approximately 1890 and 1930, virtually all the forms of inquiry and artistic expression in Western culture went through radical, foundational transformation. This course examines representative texts from the humanities and the arts focusing on the philosophical themes exemplified in the Modernist transformation.
Mr. Overvold/Offered periodically

211 EXISTENTIALISM IN PHILOSOPHY, LITERATURE AND THE ARTS/Lecture, Discussion

This interdisciplinary course explores central existential themes such as the meaning of life, freedom and responsibility, the role of the irrational in human thought, action and expression, and the "death of God." The focus is on Existentialism, both as a postwar cultural event and as a view of life's meaning and possibilities.
Mr. Overvold, Ms. Sommers, Mr. Wright/Offered periodically

212 PHILOSOPHY AND THE HUMAN SCIENCES/Lecture, Discussion

Drawing from texts in the humanities and social sciences, this is an interdisciplinary study of philosophical themes such as: rationality; action, choice and character; human nature; the other, self and society; explanation and human action. The course investigates the status, methods, and objections of the "human sciences," as well as philosophy's place among and in relationship to them.
Mr. Overvold, Mr. Wright/Offered periodically

215 KANT AND THE NINETEENTH CENTURY/Lecture, Discussion

Examines the work of Kant and selected later philosophers (Fichte, Hegel, Schopenhauer, Nietzsche, Marx, Engels, and Comte) with a special emphasis

on their influence on contemporary thought. Prerequisite: two courses in philosophy, preferably including Philosophy 143.

Mr. Wright/Offered every other year

219 PHILOSOPHY AND FEMINISM/Lecture, Discussion

An investigation of selected topics in contemporary feminist philosophical literature. Topics and authors studied vary each year. Prerequisite: two courses in philosophy or permission of the instructor.

Ms. Thomas/Offered every other year

220 HISTORY OF ETHICS/Lecture, Discussion

Examines the principal ethical theories from the history of Western philosophy, including the answers given by philosophers such as Plato, Aristotle, Epicurus, St. Thomas Aquinas, Hobbes, Hume, Kant, Ross, Rawls, and Mill to the questions: What is "the Good"? How can it be realized in society and in one's personal life? Are there other standards of right conduct? Are moral judgments objective? Why should we be moral? Prerequisite: two courses in philosophy.

Ms. Sommers, Ms. DeCew/Offered every year

221 SOCIAL AND POLITICAL PHILOSOPHY/Lecture, Discussion

Surveys the leading philosophical accounts of social and political institutions, including social contract theory, anarchism, socialism, democratic capitalism, and communism. Property, civil and natural rights, freedom and obligations, and the legitimation of political authority are treated in detail. Readings include both classical and contemporary sources. Prerequisite: two courses in philosophy.

Ms. DeCew/Offered every other year

228 CONTEMPORARY MORAL THEORY/Lecture, Discussion

A survey of recent work in moral theory (including both metaethical and normative issues) by leading Anglo-American philosophers. Prerequisite: two courses in philosophy.

Ms. Sommers/Offered every other year

234 METAPHYSICS/Lecture, Discussion

An advanced survey of fundamental problems in metaphysics: universals, substance, the mind/body relation, category theory, identity and individuation, free will, and the nature of space and time. Prerequisite: two courses in philosophy.

Mr. Pakaluk, Ms. DeCew/Offered every year

235 CONCEPTS OF SELF/Lecture, Discussion

Considers the various philosophical concepts of the "self" that have been developed by classic and contemporary philosophers. Typical thinkers whose views may be covered include Aristotle, Plato, Descartes, Kant, Heidegger, Sartre, Kierkegaard, Strawson, and Stevenson. Prerequisite: two courses in philosophy.

Mr. Wright/Offered every other year

240 EPISTEMOLOGY/Lecture, Discussion

The study of the nature and sources of knowledge, with special attention to the interrelationships among belief, knowledge, evidence, proof, truth, and the problem of skepticism. Prerequisite: two courses in philosophy.

Ms. Thomas, Mr. Overvold/Offered every year

241 PHILOSOPHY OF SCIENCE/Lecture, Discussion

Examines such questions as: What is a scientific explanation? Can induction be justified? What could justify the claim that one theory is better than another? Are there such things as objective "facts"? Do scientific theories disclose the ultimate constituents of the universe? Special attention is given to the views of Hempel, Popper, Kuhn, Lakatos, Feyerabend, and Hesse. Prerequisite: four courses in natural sciences or two courses in philosophy.

Mr. Derr/Offered every year

242 PHILOSOPHY OF LANGUAGE/Lecture, Discussion

An analysis of the concepts of reference, meaning, analyticity, intentionality, intensionality, rules, and the relation of language to thought. Particular attention is given to the speech act approach (Austin, Grice, Strawson, Searle) and to the implications of language theory for the social sciences (Ricoeur, Louch). Prerequisite: two courses in philosophy.

Mr. Derr/Offered every other year

250 PLATO/Seminar

A detailed and advanced study of the philosophical thought of Plato. The seminar involves careful reading and discussion of one of the major dialogues (such as the *Parmenides*, *Sophist*, or *Theaetetus*). Prerequisite: Philosophy 141.

Mr. Pakaluk/Offered every other year

251 ARISTOTLE/Seminar

A detailed and advanced study of the philosophical thought of Aristotle. The seminar involves careful reading and discussion of one of the major works, such as the *De Anima*, *Physics*, *Metaphysics*, and *Nichomachean Ethics*. Prerequisite: Philosophy 141.

Mr. Pakaluk/Offered every other year

256 KANT/Seminar

Students are introduced to Kant's *Critique of Pure Reason*—regarded by many as the most important philosophical text of the last several hundred years. Prerequisite: two courses in philosophy, including 143.

Mr. Wright/Offered periodically

257 HEGEL/Seminar

Hegel's *The Phenomenology of Mind* and selections from his other works. Prerequisite: at least two courses in philosophy, preferably including 143.

Mr. Wright/Offered periodically

258 THE ORIGINS OF ANALYTIC PHILOSOPHY/Seminar

An examination of the development of analytic philosophy through an intensive study of its three founding figures: Gottlob Frege, Bertrand Russell, and Ludwig Wittgenstein. Readings include Frege's *Foundations of Arithmetic*, Russell's *Mysticism and Logic*, and Wittgenstein's *Tractatus Logico-Philosophicus*. Prerequisite: two courses in philosophy, including 110 or 160.

Mr. Pakaluk/Offered periodically

259 HEIDEGGER AND WITTGENSTEIN/Seminar

The seminar concentrates on two of the most influential texts of twentieth-century philosophy: Heidegger's *Being and Time* and Wittgenstein's *Philosophical Investigations*. Prerequisite: three courses in philosophy.

Mr. Overvold/Offered periodically

263 PHILOSOPHY OF MIND/Seminar

A critical examination of the "nature" or concept of mind. Related issues considered are: mind/body relationship, the identity theory of mind/brain, the thesis of dualism, and other themes that involve the philosophical examination of psychological phenomena. Prerequisite: two courses in philosophy.

Mr. Overvold/Offered periodically

265 IDEALISM/Seminar

Detailed and advanced study of the major idealistic philosophers including: an investigation of traditional arguments for idealism, the major metaphysical and epistemological theories held by idealists, and the relevance of idealism to the contemporary scene. Course topics and texts will vary from year to year.

Mr. Wright/Offered periodically

268 PHILOSOPHY OF PSYCHOLOGY/Seminar

An advanced and critical study of the philosophical aspects of psychology. Topics considered vary and may include: the concepts of emergence and construct validity; the relationship between thought and language; the philosophical presuppositions of the different psychiatric schools; the use of introspection in psychological studies. Prerequisite: a total of four courses in philosophy and psychology, or graduate studies in psychology.

Mr. Pakaluk/Offered periodically

270 PHILOSOPHY OF LAW/Seminar

Examines fundamental questions in philosophy of law, such as: Is law "natural," "God-given," or "an artificial contrivance of man"? What is the purpose of law? What is the nature of judicial reasoning, and is it subjective or governed by some set of principles? How do alternative theories of law explain rights, duties, liability, responsibility, and so forth? What is the relationship between liberty, privacy, and justice? Prerequisite: two courses in philosophy.

Ms. DeCew/Offered every year

272 ADVANCED ISSUES IN MEDICAL ETHICS/Seminar

A rigorous investigation of two or three current controversies related to medicine, health policy, and ethics. Readings include original materials from the legal, medical, and philosophical literatures. Topics covered in the last two years include: surrogate motherhood, acquired immune deficiency syndrome, and withholding nutrition from neurologically impaired patients. Prerequisite: permission of the instructor.

Mr. Derr/Offered every other year

275 PHENOMENOLOGY/Seminar

An intensive study of two representatives of contemporary phenomenology: Edmund Husserl and Maurice Merleau-Ponty. Some consideration is given to other major philosophers within the tradition and to the historical context of the phenomenological movement in general. Prerequisite: at least three courses in philosophy.

Mr. Overvold/Offered periodically

276 NIETZSCHE, HEIDEGGER, AND EARLY TWENTIETH-CENTURY PHILOSOPHY/Seminar

This seminar concentrates on Continental philosophy, focusing on the two most influential philosophers of the time. Attention also will be given to the broader cultural context and to parallel changes in American and British philosophy during the early twentieth century.

Mr. Overvold/Offered periodically

287 PHILOSOPHY OF THE SOCIAL SCIENCES/Seminar

A critical and intensive survey of the four alternative accounts of explanation, social reality, and social science put forward by the neopositivist empiricists, the phenomenologists, the neo-Wittgensteinians, and the Continental hermeneuticists and critical theorists. Prerequisite: at least four courses in philosophy or graduate status in a social science.

Mr. Overvold, Mr. Derr/Offered every other year

296 RESEARCH APPRENTICESHIP/Individual Projects

A research apprentice participates in the current professional research of her or his faculty sponsor. Students accepted as apprentices need initiative, perseverance, and superior research and writing skills. Recent apprentices have worked on such issues as surrogate parenting, ethical issues in occupational medicine, and German physicians' attitudes toward medical killing in the 1920s. Prerequisite: at least six courses in philosophy, permission of the instructor, and approval of the department.

Mr. Derr, Ms. DeCew, Mr. Overvold, Mr. Pakaluk, Ms. Sommers,
Mr. Wright/Offered every semester

297 ADVANCED TOPICS IN PHILOSOPHY/Individual Projects

Offers group discussion, individual tutorials, and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular department course(s) in the area; four courses in philosophy; and permission of instructor. Offerings vary each semester. Recent topics have included Jewish philosophy, feminist theory, philosophy and the Holocaust, philosophical logic, Kant's *Critique*, and Hegel's *Idealism*.

Staff/Offered every semester

299 SENIOR THESIS/Individual Project

Students undertake an advanced individual study of a selected philosophical problem. The prerequisites, all of which must be fulfilled no later than the middle of the preceding semester, are: (1) permission of the department, which is usually granted only to majors with an academic record of at least B in the major; (2) prior completion of at least six courses in philosophy; and (3) submission and approval of a thesis proposal. The thesis proposal must describe the nature and scope of the proposed project, provide a bibliography of the principal sources the student expects to use, include a schedule for submission of first and final drafts to the advisor and department, and be signed by the student's thesis advisor. Upon completion of the thesis, the department faculty schedules an oral defense for the student. Variable credit. Typically one semester.

Staff/Offered every semester

Physics

Astronomy

PROGRAM FACULTY

Roy S. Andersen, Ph.D.: history and philosophy of science

John Davies, Ph.D.: theoretical plasma physics

Astronomy is not a formal program or major. Courses in astronomy are recommended for both nonscience and science majors as part of their general education and provide a way of satisfying the *scientific perspective* requirement of the Program in Liberal Studies. However astronomy courses do not satisfy departmental science requirements. Students interested in a career in astronomy should major in physics.

100 HISTORY OF THE CONCEPT OF THE SOLAR SYSTEM/Lecture, Discussion

This *verbal expression* course uses a case study from the history of science to investigate scientific writing as a literary form. The objectives of the course are to extract major ideas from written material and to develop writing as an agent for analysis. The major case study will be the 5,000 year development of the concept of the sun as the center of the solar system. This fascinating story will emerge from readings from original sources and should interest students who want to know more about the history of ideas.

Mr. Andersen/Offered every spring

101 EXPLORING THE UNIVERSE/Lecture, Discussion

This course is intended for nonscience majors who wish to learn about the stars. It is designed for students who are interested in the concepts and methods of science but do not wish the depth of the typical introductory science course. Topics considered are interdisciplinary in character, since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized and only simple algebra is used. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles, and the galaxies are studied. Theories of the composition and origin of the solar system, the universe, and life are explored. Students will make observations of celestial objects including the moon, sun, planets, meteors, stars, nebulae, and galaxies using telescopes in the University observatory. This course satisfies the *scientific perspective* requirement in the Program of Liberal Studies.

Mr. Andersen/Offered every fall

102 THE PLANETS AND SPACE EXPLORATION/Lecture, Discussion

This course concentrates on the solar system and past and future projects for its exploration. Topics discussed include the sun, comets and asteroids, planetary and satellite surfaces, and planetary interiors, atmospheres, and magnetic fields. The principles of the rocket and the orbit of objects in the solar system are treated qualitatively, but students should be prepared to do simple algebra. Selected projects in space exploration are studied in detail. The course can be taken as a first course in astronomy or as a second course after Astronomy 101.

Mr. Davies/Offered every spring

Physics

PHYSICS DEPARTMENT FACULTY

Christopher P. Landee, Ph.D.: *chair*: experimental condensed matter physics, magneto-chemistry

Roy S. Andersen, Ph.D: history and philosophy of science

S. Leslie Blatt, Ph.D.: experimental nuclear physics

John Davies, Ph.D.: theoretical plasma physics

Robert L. Goble, Ph.D.: technology assessment, atmospheric physics and turbulence

Harvey Gould, Ph.D.: theoretical condensed matter physics

Christoph Hohenemser, Ph.D.: experimental condensed matter physics, technology assessment

Roger P. Kohin, Ph.D.: experimental condensed matter physics

ADJUNCT FACULTY

Daeg S. Brenner, Ph.D.

Alan A. Jones, Ph.D.

AFFILIATE FACULTY

Michael Klein, Ph.D.

Edward L. O'Neill, Ph.D.

George Phillies, Ph.D.

PHYSICS UNDERGRADUATE PROGRAM

The study of physics, generally regarded as the most fundamental of the sciences, is an important part of a liberal education. Introductory courses are designed for both students majoring in physics and others who want a broad background in the fundamentals of physical principles, the observation of natural processes, the logic and nature of science, and the diverse applications of physics. Many courses are appropriate for undergraduates with little or no prior experience with physics or university-level mathematics. Courses of this type include:

1. *Scientific Perspective Courses*. Physics 100, 102, 106, and 130 and Astronomy 101 and 102 are suitable for students with no background in college-level mathematics, have no prerequisites, and satisfy the *scientific perspective* requirement of the Program of Liberal Studies. Physics 110, 111, and 112 also satisfy the *scientific perspective* requirement but are intended for prospective science majors.
2. *Introductory Laboratory Courses*. The department offers a variety of undergraduate laboratory-based courses with few or no prerequisites. Examples of these courses include Physics 115, 118, and 119 on computer simulation, optics, and electronics respectively. These courses fulfill the physics laboratory requirement for premedical/predental students. Physics 112, 113, and 114 also have important laboratory components.
3. *Introductory Physics Courses*. Prospective science majors are strongly encouraged to study physics during their freshman or sophomore years since understanding the natural sciences requires a knowledge of the basic principles of physics. The department offers two sequences of introductory courses. Physics 110 and 111 form a two-semester, noncalculus-based survey of physics appropriate for the majority of science majors, ETS majors, and premedical/predental students. Physics 110, 112, and 113 form a three-semester survey of physics recommended for physics majors, as well as chemistry and mathematics majors. The 110, 112, 113 sequence covers mechanics, electricity and magnetism,

quantum physics, and relativity in more depth than the 110, 111 sequence and thereby gives better preparation for advanced study. Physics 112 treats many of the topics covered in Physics 111, although in greater depth. Since Physics 112 is less comprehensive, it should be followed in sequence by Physics 113.

Students desiring further information about current physics offerings are invited to contact the course instructors or the undergraduate physics advisor. In addition to the courses listed above, the department offers upper-level and graduate courses that provide greater depth and sophistication.

THE PHYSICS MAJOR

A major program can be structured to meet the individual needs of students planning graduate study in physics or engineering, as well as students considering a variety of careers in business, environmental studies, government, law, medicine, and teaching. During their freshman year, prospective physics majors are urged to enroll in Physics 110 and 112 and to consult the undergraduate physics advisor about their individual program of study. The requirements for a major in physics are fourteen courses of a common core curriculum and four additional approved courses in physics or related areas. The core curriculum is taken by all physics majors and encompasses studies of mechanics, electricity and magnetism, quantum and thermal physics, and four semester courses in calculus. The requirements for the major are flexible and the undergraduate physics advisor may modify the requirements to satisfy the particular needs and interests of each student. Several examples of individual programs are:

General Physics – a program appropriate for students who wish to major in physics as part of liberal arts education but who do not intend to pursue graduate study or a career of research in physics.

Preprofessional Physics – a program of advanced courses in physics, chemistry and mathematics designed to prepare the student for graduate study in physics or research in industry.

Biological Physics – a program including chemistry and biology courses that can be used as preparation for entrance to medical or dental schools or for careers in the biomedical professions.

Technology Assessment – a program of interdisciplinary courses to enable students to make physical, economic, and value assessments of technological systems.

A student interested in using physics as a basis for an engineering career should inquire about the Clark *Three-Two Plan*, which offers students a combined liberal arts degree from Clark and B.S. in engineering from another institution.

Courses in the core curriculum include:

	Units
1. Introductory Physics: Physics 110 and Physics 111 or 112 (112 is recommended)	2
2. Intermediate-level Physics: Physics 113 and 114	2
3. Calculus: Mathematics 120, 121, 130, and 131	4
4. Laboratory-based courses: Physics 115 or 119	1
5. Upper-level courses: Physics 123, 161, 162, and 174	4
6. Senior project: Physics 231, or equivalent	1
TOTAL IN CORE CURRICULUM	14
7. Additional approved electives	4
TOTAL IN MAJOR PROGRAM	18

Students with strong backgrounds in physics and mathematics may replace required courses with appropriate advanced courses, as approved by the undergraduate physics advisor. Students with advanced placement credits may count them towards their major requirements. Advanced undergraduates may take graduate-level courses.

It is possible to complete all requirements for the major within three years, so that it is not essential to begin the study of physics in the freshman year. The Physics Department offers *Introductory Physics*, 110 and 111, every semester so that students can begin studies at any time. All majors are required to confer with the undergraduate advisor every semester prior to registration to plan courses for the following semester and to ensure that all requirements for the major are being satisfied.

Information about career opportunities after graduation as well as further information about courses and major requirements can be found by conferring with the undergraduate physics advisor and other physics faculty members.

THE CAPSTONE EXPERIENCE

An independent research project is the most appropriate capstone experience for physics majors. Students are encouraged to "do physics" at the earliest possible opportunity. The required capstone course is one semester of Physics 231, *Special Projects in Physics I*, or an approved course of comparable scope. Near the end of the junior year or earlier, a physics major should arrange a topic for his or her senior project in consultation with department faculty members. Work is conducted under the guidance of a faculty member, often with the assistance of graduate students. It is the intention of the faculty to design projects that lead to publication in refereed physics journals. Majors with a special interest in research may continue their research by enrolling in additional semesters of Physics 232 and Physics 233. Research opportunities in the department are listed in the University publication, *Undergraduate Research Opportunities*.

HONORS

Students can apply for departmental honors in recognition of meritorious academic standards and creativity in research. An honors candidate must maintain an overall B- average. All eligible majors are encouraged to participate in the honors program. Written applications for the honors program should be submitted to the undergraduate advisor by the end of the junior year.

Honors candidates are expected to conduct a research project under the guidance of a faculty member during the junior and/or senior years. A thesis describing the work must be submitted to the faculty no later than April 1 of the senior year and be defended orally in a special departmental convocation about two weeks later. Recommendation for honors in physics is made on the basis of the quality of the thesis and student performance in the defense. Students may gain credit for thesis research by registering for Physics 231, 232, and 233.

GRADUATE PROGRAM

The department offers the master of arts and doctor of philosophy degrees in physics. Departmental research is concentrated in experimental and theoretical studies of condensed matter including magnetic critical phenomena, magnetic and optical properties of solids, high temperature superconductivity, and the dynamics of first-order phase transitions. Other research areas include theoretical plasma physics and interdisciplinary studies of risk assessment and energy technology.

The academic requirements of the graduate program are flexible, with emphasis on early student participation in research and informal student

evaluation. A distinctive part of each student's course work is Physics 303, a research apprenticeship, that introduces students to different research groups beginning in the first year of graduate studies.

Beginning graduate students take a placement examination which tests their knowledge of undergraduate physics. Students failing this examination may be required to take remedial courses before entering fully into the graduate program, and may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the M.A. degree students must satisfy the general University residence and course requirements, pass with a grade of B- or better four of the basic graduate courses (Physics 301, 302, 305, 306, 309, or 310) and one semester of Physics 303, and pass two oral examinations in the subject matter of the basic graduate courses. In contrast to the M.A. physics programs at many other universities, M.A. candidates must also complete a thesis based on original research.

To receive the Ph.D. degree students must fulfill university residence and course requirements, pass with a grade of B or better the basic graduate courses (Physics 301, 302, 305, 306, 309, and 310) and three semesters of Physics 303. The department does not rely on a formal written qualifying examination to evaluate student readiness for Ph.D. research. Instead, students must pass four oral examinations that stress qualitative as well as quantitative aspects of the subject matter of the basic graduate courses. Students must also pass at least one graduate course in a subject other than physics and complete a dissertation based on original research. Students entering with advanced standing and transferable credit are encouraged to demonstrate proficiency in the basic graduate courses through oral examinations.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as teaching assistants or teaching fellows in the department, or elsewhere if approved by the department.

Further information on the research interests of the faculty and research opportunities for graduate students can be found in the departmental brochure, *Graduate Study and Research in Physics at Clark*. Copies are available upon request from the graduate student advisor.

Application forms for admission and financial aid may be requested from the chair of the department. During the academic year, financial support is available in the form of tuition remissions, teaching assistantships and research assistantships. The department considers the financial support of its graduate students an important responsibility.

PHYSICS COURSES

100 EINSTEIN AND HIS IDEAS/Lecture, Discussion

Introduces students with no special preparation in mathematics and science to the contributions of Einstein to contemporary physics. Much of the course is devoted to a systematic development of Einstein's special theory of relativity, Einstein's role in the development of quantum mechanics, and his involvement in political and humanitarian causes. Throughout the course we seek to gain insight into Einstein as a person and into the nature of the creative process. This course satisfies either the *formal analysis* or the *scientific perspective* requirement in the Program of Liberal Studies.

Mr. Gould/Offered every other year

102 DISCOVERING PHYSICS/Lecture, Laboratory

The course emphasizes hands-on laboratory experience and the learning of science in a way that is consistent with how science should be taught to children

and how scientists gain new knowledge. Although the course is designed to be useful to students interested in education, it is open to all undergraduates and no special expertise in mathematics and science is assumed. The main topics of interest are electricity and magnetism and wave phenomena with an emphasis on the properties of light. The course is crosslisted with Education 254, but all undergraduate students, regardless of major, are encouraged to enroll in Physics 102. Several laboratories and group discussions per week. The course satisfies the *scientific perspective* requirement in the Program of Liberal Studies.

Mr. Blatt, Mr. Gould, Mr. Gould/Offered every fall

106 LIGHT, COLOR, AND VISION/Lecture, Discussion

This course covers a variety of optical and visual phenomena including the nature of light, the interaction of light with matter, human perception of color, and applications of light such as lasers and holography. Many color slides of natural, man-made and artistic phenomena will be shown and students will perform several experiments. The course satisfies the *scientific perspective* requirement and is designed primarily for students outside the physical sciences.

Mr. Kohin/Offered every other year

110 INTRODUCTORY PHYSICS — PART I/Lecture, Discussion

This is an introductory-level, problem-oriented course intended for science majors and the general student desiring a survey of physics. The course stresses the simplicity and self-consistency of physical models in explaining a variety of physical phenomena. Topics discussed include Newtonian mechanics, wave motion, and an introduction to the thermal properties of matter. Calculus is not required although elements of calculus will be introduced during the course. The course may be followed by either Physics 111 or 112, depending on the particular goals of the student. Physics 110 together with Physics 111 and a laboratory course fulfills the usual entrance requirements for medical and dental schools. The course also satisfies the *scientific perspective* requirement of the Program of Liberal Studies. There are three lectures and one discussion section per week.

Mr. Andersen, Mr. Davies, Mr. Kohin, Mr. Landee/Offered every semester

111 INTRODUCTORY PHYSICS — PART II/Lecture, Discussion

A continuation of Physics 110. Topics include electricity, magnetism, optics, relativity, atomic physics, and nuclear physics. Students who do not intend to take a second year of physics should enroll in this course instead of Physics 112. Three lectures and one discussion section are scheduled each week.

Mr. Andersen, Mr. Davies

Mr. Kohin, Mr. Landee/Offered every semester

112 CLASSICAL PHYSICS/Lecture, Discussion

This course is a continuation of Physics 110 for students desiring a more in-depth introduction to physics. The topics of electricity, magnetism, and light and optics are explored in greater depth than in Physics 111. Physics 112 is the recommended second semester course for physics, mathematics and other science majors who intend to continue with *Quantum Physics*, Physics 113. Three lectures and one laboratory per week. Credit is not given for both Physics 111 and 112. The course requires permission of the instructor for entry. Corequisite: Mathematics 121 or 125.

Mr. Kohin, Mr. Landee/Offered every spring

113 QUANTUM PHYSICS — SEMINAR I

Quantum Physics Seminar I is the third semester of a four-semester introductory survey of physics, and it normally follows Physics 111 or 112. The seminar meets once a week for three hours and in addition involves a full afternoon of laboratory work. The course involves no lectures and instead seeks to train the student in the art of clear scientific expression. This training is achieved by asking students to present oral and written material on the fundamental concepts of physics, selected problems, and laboratory experiments. The course begins with a review of classical electromagnetism and focuses on the experimental basis for Einstein's special theory of relativity and the quantum nature of light. Key experiments involve the measurement of the speed of light, the increase of electron mass with increasing velocity, and the interference of a single photon with itself.

Mr. Hohenemser/Offered every fall

114 QUANTUM PHYSICS — SEMINAR II

Quantum Physics Seminar II is the fourth semester of a four-semester introductory survey of physics and is intended to follow Physics 113. The seminar structure of Physics 114 continues the pattern of extensive oral and written presentations established in Physics 113. The seminar meets once a week for three hours and in addition involves a full afternoon of laboratory work. Students are encouraged to design their own experimental approaches. Physics 114 emphasizes the experimental basis of nuclear and atomic structure and begins the theoretical development of wave mechanics. Laboratory work employs modern research instrumentation to address the historically important contributions by Einstein, Rutherford, Compton, Moseley, Chadwick, and others. A special section deals with the technological application of nuclear fission and fusion.

Mr. Hohenemser/Offered every spring

115 COMPUTER SIMULATION LABORATORY

This course introduces students to the essential features of computer simulation and its diverse applications. The course is project-oriented, with students proceeding at their own pace depending on their background and interests. Projects include the simulation of the harmonic oscillator, planetary motion, chaotic systems, fractal phenomena, simple random systems, and thermal phenomena. Methods include the numerical solution of simple differential equations and Monte Carlo techniques. The emphasis of the course is on using the computer as a tool for gaining a greater understanding of physical systems. The course also emphasizes the development of algorithms and structured programming techniques, and it is recommended for prospective physics majors as an introduction to computer programming rather than Computer Science 101. Two laboratory sections and one discussion period per week. This course satisfies the *scientific perspective* requirement of the Program of Liberal Studies. No background in computer programming is necessary. Prerequisites: Physics 110, Mathematics 120, or permission of the instructor.

Mr. Gould/Offered every spring

118 OPTICAL PROJECTS LABORATORY

This introductory laboratory covers the principles, applications, and techniques of modern optics. Projects treat imaging and photographic techniques, basic optical instruments including the microscope, lasers and holograms, optical communication using fiber optics, and interaction of light with matter. This course is of interest to biology, geography, and psychology majors, as well as physics and chemistry majors. It satisfies the physics laboratory requirement

for premedical and pre dental students. Two tutorial sessions and one laboratory per week. Prerequisite: one course in physics.

Mr. Kohin/Offered every year

119 ELECTRONICS LABORATORY

This is an introductory laboratory course designed to teach the principles of modern electrical measurement and control. Basic skills such as the fundamentals of DC and AC circuit theory and use of test instruments such as multimeters and the oscilloscope are discussed. The emphasis is on electrical circuits, operational amplifiers, and digital circuits. The course satisfies the physics laboratory requirement for premedical/pre dental students. Two lectures and one laboratory each week. No prerequisites other than high school algebra.

Mr. Andersen, Mr. Landee/Offered every year

123 STATISTICAL AND THERMAL PHYSICS/Lecture, Discussion

This course introduces the concepts and techniques of statistical and thermal physics including statistical mechanics, thermodynamics, and kinetic theory. The goal of the course is to understand the behavior of macroscopic systems in terms of their basis in atomic theory. Topics treated include the development of an intuitive understanding of probability concepts, entropy and the second law of thermodynamics, the Boltzmann probability distribution, the thermodynamics of gases and magnets, heat and work, and the first and second law efficiencies of simple engines. Prerequisite: Physics 113; corequisite: Mathematics 131.

Mr. Gould, Mr. Kohin/Offered every fall

130 ENERGY SOURCES AND SYSTEMS/Lecture, Discussion

An introduction to the subject of energy for ETS majors and others interested in the utilization of fossil fuels, solar and wind power, geothermal energy, and nuclear fission and fusion. The emphasis is placed on basic concepts, thermodynamic principles, efficiency in use, and methods of converting both energy and energy resources from one form to another. The course provides the necessary background for those planning more detailed study of energy technology or policy.

Mr. Davies, Mr. Renn/Offered every other year

161 THEORETICAL PHYSICS I/Lecture, Discussion

Physics 161 and 162 constitute an introduction to the concepts of classical physics. Topics considered in Physics 161 include particle and rigid body mechanics, and the development of electro- and magnetostatics. The necessary mathematical methods are introduced and applied. Prerequisites: Mathematics 131 and Physics 111 or 112.

Mr. Davies, Mr. Kohin/Offered every year

162 THEORETICAL PHYSICS II/Lecture, Discussion

This course is a continuation of Physics 161. Topics covered include the development of electrodynamics through Maxwell's equations and relativity. Useful mathematical methods are developed. Prerequisite: Physics 161.

Mr. Davies, Mr. Kohin/Offered every year

174 ATOMIC AND NUCLEAR PHYSICS/Lecture, Discussion

This intermediate-level course provides an introduction to quantum mechanics. Basic principles are introduced, and the theory is applied to the study of atoms, nuclei, molecules and solids. Prerequisites: Physics 113 and Mathematics 131.

Mr. Landee/Offered every year

201 CLASSICAL DYNAMICS/Lecture, Discussion

This course is designed to prepare students for graduate work in physics. Topics covered include Hamilton's principle, classical scattering theory, rigid body motion, canonical transformations, Hamilton-Jacobi theory, and mathematical methods of physics. Prerequisite: Physics 161 and 162.

Mr. Davies, Mr. Kohin/Offered every year

202 ELECTRODYNAMICS/Lecture, Discussion

This course is designed to prepare students for graduate work in physics. Topics covered include boundary value problems in electrostatics and magnetostatics, electromagnetic field equations and special relativity, electromagnetic waves, radiation theory, multipole fields, and mathematical methods of physics.

Prerequisite: Physics 162.

Mr. Davies/Offered every year

205 QUANTUM MECHANICS — PART I/Lecture, Discussion

Physics 205 and 206 constitute a comprehensive introduction to the concepts of quantum mechanics and their application in physics and chemistry. The goal of this yearlong course is to prepare students for graduate work. The lectures are the same as in Physics 305, but assignments and evaluation are separate.

Prerequisites: Physics 174 and Mathematics 131.

Staff/Offered every year

206 QUANTUM MECHANICS — PART II/Lecture, Discussion

Physics 206 is a continuation of Physics 205. Prerequisite: Physics 205.

Staff/Offered every year

209 STATISTICAL MECHANICS/Lecture, Discussion

This course is designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309, but evaluation is separate.

Prerequisites: Physics 123 and 174.

Mr. Gould, Mr. Phillis/Offered every year

214 PHYSICAL INSTRUMENTATION LABORATORY/Laboratory

An introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 114, except that interpretation of experiments is at the advanced undergraduate or beginning graduate level. Undergraduates who have completed 114 may register for 214.

Mr. Hohenemser/Offered every year

215 ADVANCED COMPUTER SIMULATION LABORATORY/Laboratory

This course is similar in nature to Physics 115 but treats topics at a more advanced level. The course is suitable for graduate students in the sciences or undergraduates who have completed Physics 115. Prerequisite: Physics 115 or permission of the instructor.

Mr. Gould/Offered every spring

219 ADVANCED ELECTRONICS LABORATORY/Laboratory

This course is similar to Physics 119 but treats topics at a more advanced level. The course is suitable for graduate students in the sciences or undergraduates who have completed Physics 119. Prerequisite: Physics 119 or permission of the instructor.

Mr. Landee/Offered periodically

230 DIRECTED READINGS IN PHYSICS

These directed readings in physics will provide for special needs not covered in regular courses. Offered by arrangement and for variable credit.

Staff/Offered every semester

231 SPECIAL PROJECTS IN PHYSICS I

This is an independent research project in experimental, theoretical, or applied physics, done under the guidance of a faculty advisor. It is normally taken in the senior year to fulfill the senior project requirement. Students may enroll more than once in Physics 231 if they begin a new project under a different faculty advisor. Students in continuing projects should enroll in Physics 232 and 233. Offered for variable credit. By permission of the faculty advisor.

Staff/Offered every semester

232 SPECIAL PROJECTS IN PHYSICS II

This course is the second semester continuation of Physics 231 for students engaged in an ongoing research project under the same faculty advisor. Offered for variable credit. Prerequisites: Physics 231 and permission of the advisor.

Staff/Offered every semester

233 SPECIAL PROJECTS IN PHYSICS III

This course is the third semester continuation of Physics 231 and 232 for students engaged in an ongoing research project. Offered for variable credit. Prerequisites: Physics 232 and permission of the advisor.

Staff/Offered every semester

250 SENIOR SEMINAR/Lecture, Discussion

This capstone covers a selection of topics of current interest in physics. Offered for variable credit.

Staff/Offered periodically

301 CLASSICAL DYNAMICS/Lecture, Discussion

A graduate-level course in classical mechanics. The topics covered are similar to Physics 201 but treated in greater depth.

Mr. Davies. Mr. Kohin

302 CLASSICAL ELECTRODYNAMICS/Lecture, Discussion

A graduate-level course in classical electromagnetic theory. The topics covered are similar to Physics 202 but treated in greater depth.

Mr. Davies

303 RESEARCH APPRENTICESHIP/Research

A research apprentice actively participates in an experimental or theoretical research group of the department. Ph.D. students should enroll in the course for three semesters with a minimum of one semester in a theoretical group and one semester in an experimental group. M.A. students take a minimum of one semester.

Staff

305 QUANTUM MECHANICS — PART I/Lecture, Discussion

Physics 305 and 306 constitute a comprehensive introduction to the concepts of quantum mechanics and their application in physics and chemistry. Topics treated include the foundations of quantum mechanics, symmetries and angular momentum, particle in a central potential, electron spin, and perturbation theory.

Staff

306 QUANTUM MECHANICS — PART II/Lecture, Discussion

Physics 306 is a continuation of Physics 305. Topics discussed include scattering theory, interaction of radiation with matter, second quantization, applications to simple atoms and molecules, and an introduction to many-body theory.

Staff

309 STATISTICAL MECHANICS/Lecture, Discussion

This is a comprehensive course in statistical mechanics with applications to physical and chemical systems. Topics discussed include ensemble theory, the statistical basis of thermodynamics, quantum statistics, the cluster expansion of a classical gas, ideal Bose and Fermi systems, applications of the renormalization group to the Ising model and linear polymers, and fluctuation theory.

Mr. Gould, Mr. Phillies

310 SOLID STATE PHYSICS/Lecture, Discussion

This course surveys the important experimental properties of solids and introduces students to the quantum theory of solids. Topics include crystal and reciprocal lattice structures, the free electron theory of metals, electronic band structure and the Fermi surface, lattice vibrations, and the elementary excitations of solids. Prerequisite: Physics 305, or permission of instructor.

Mr. Klein, Mr. Landee

317 SOLID STATE SPECTROSCOPY/Lecture, Discussion

A theoretical and experimental review of the physics of solids observed using spectroscopic methods.

Staff

319 ADVANCED STATISTICAL MECHANICS/Lecture, Discussion

This course treats the statistical mechanics of interacting systems including the theory of critical phenomena and kinetic theory. Other advanced topics of current research interest will also be discussed. Prerequisite: Physics 309.

Mr. Gould

320 ADVANCED SEMINAR IN PHYSICS/Lecture, Discussion

This course provides for special coverage of topics in physics of current research interest. Offered for variable credit.

Staff

325 RESEARCH SEMINAR/Lecture, Discussion

A student participation seminar in current research problems. Offered for variable credit.

Staff

340 COLLOQUIUM/Lecture

Weekly invited lecturers speak on research topics of current interest. Required for all graduate students. Not offered for credit.

Staff

350 RESEARCH

Thesis and dissertation preparation. Offered for variable credit.

Staff

Psychology

DEPARTMENT FACULTY

James V. Wertsch, Ph.D., *chair*: sociocultural approaches to mind, language, and thought; socialization of cognition and values; cultural identity in the context of globalization

Sandra T. Azar, Ph.D.: high risk families, parenting, child abuse, and developmental skills underlying self-control, adolescent depression

Robert W. Baker, Ph.D.: personality theory, abnormal behavior, clinical methods; prediction, measurement, and facilitation of student adjustment to college

Michael Bamberg, Ph.D.: first and second language acquisition, narratives, discourse analysis, cross-linguistic/cross-cultural comparison

Roger Bibace, Ph.D.: holistic developmental approaches to life cycle, behavioral sciences and family medicine, doctor/patient relationships, psychoanalysis

Nancy Budwig, Ph.D.: language development, the development of categories of human action, socialization

Leonard Cirillo, Ph.D.: developmental approaches to metaphorical representation, psychotherapies, aging

Joseph H. deRivera, Ph.D.: phenomenological psychology, the structure and function of different emotions, the relationships between emotion and action, the social psychology of peace and justice

Rachel Joffe Falmagne, Ph.D.: language and reasoning, logical thinking, logical development, mental imagery and thought

Bernard Kaplan, Ph.D.: developmental orientation to, and analysis of, psychological activities and operations; perception, language, group formation

James D. Laird, Ph.D.: emotional experience, self-attribution, attributions to others, structures of person awareness, world hypotheses as personality variables

Thomas A. Schoenfeld, Ph.D.: developmental psychobiology, olfaction, neuroanatomy and behavior

David A. Stevens, Ph.D.: taste and smell, psychophysics, discrimination learning

Nicholas S. Thompson, Ph.D.: social behavior and communication of crows, bluejays, and mimic thrushes; evolutionary theory and behavior

Ina C. Uzgiris, Ph.D.: child socialization, infant development, parent-infant interaction, communication development

Marianne Wiser, Ph.D.: visual perception; cognitive development, especially concept acquisition

ADJUNCT FACULTY

Sharon Griffin, Ph.D.

Linda Kennedy, Ph.D.

Victoria A. McGillin, Ph.D.

David Zern, Ph.D.

AFFILIATED FACULTY

Errol Baker, Ph.D.

Robert A. Ciottone, Ph.D.

Ronald Cohen, Ph.D.

Craig Ferris, Ph.D.

David Finkel, Ph.D.

Edith F. Kaplan, Ph.D.

Deborah S. Kellett, Ph.D.

Arnold Miller, Ph.D.
Robert J. O'Connell, Ph.D.
Marlene Oscar-Berman, Ph.D.
Lawrence Peterson, Ph.D.
Allen Rosenbaum, Ph.D.
Georgia Sassen, Ph.D.
Miriam Sexton, Ph.D.
Mary Watkins, Ph.D.

RESEARCH ASSOCIATES

Cathleen Crider, Ph.D.
Jonathan Demick, Ph.D.
Ogretta V. McNeil, Ph.D.
Mark Quirk, Ed.D.
Mary Walsh, Ph.D.

EMERITUS FACULTY

Tamara Dembo, Ph.D.
Seymour Wapner, Ph.D., *chair*, Executive Committee, Heinz Werner Institute
Morton Wiener, Ph.D.

FRANCES L. HIATT SCHOOL OF PSYCHOLOGY

In 1987 the Frances L. Hiatt School of Psychology was formed. This school has a major endowment provided through the generous support of the Hiatt family. The creation of the school, which encompasses the Department of Psychology, with the Heinz Werner Institute for Developmental Analysis, and the Department of Education, provides additional opportunities for students entering the graduate program in either department. In addition to Frances L. Hiatt Fellowships, new opportunities for organizing and attending conferences are available, and there are new sources of support for travel and for research activities.

UNDERGRADUATE PROGRAM

In its undergraduate courses and research, the department emphasizes the same respect for scholarship that it has at the graduate level. The aims of the undergraduate program are: to promote respect for intellectual activity, to encourage an attitude of intelligent inquiry, and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance students' liberal arts background and prepare them for graduate work in psychology or related disciplines.

Course Numbers: Ranges of course numbers have specific meanings according to the following key:

<i>Range</i>	<i>Meaning</i>
100-109	Courses all majors must take (general, quantitative methods)
110-149	Survey courses, psychology as a life science
150-189	Survey courses, psychology as a social or human science
190-199	Special freshman and sophomore courses
200-214	Laboratory courses
215-229	Research courses
230-234	More advanced courses, psychology as a life science
235-239	More advanced courses, psychology as a social or human science
240-259	Primarily junior and senior specialized seminars (may not be taken for graduate credit without special permission)

- 260-289 Primarily senior and graduate specialized seminars (may be taken for graduate credit without special permission)
- 290-299 Special courses (honors, directed readings, research, practicum)

Unless otherwise stated, Psychology 101 is a prerequisite to all other psychology courses.

Major Requirements

The major in psychology consists of psychology and related course requirements. The psychology requirements are designed to ensure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science; to ensure some familiarity with experimental and observational methods (laboratory requirement); to provide background in essential quantitative skills (statistics requirement—Psychology 105); and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two groups of related courses reflects the conviction of the department that all academic areas are actually or potentially related to psychology, and also that scholarship involves, at some point, studying subject matter in considerable depth.

1. Psychology Courses

Total of at least eight full-course equivalents, including:

- a. 101 *General Psychology* or 155 *Psychology as a Human Science*
- b. 105 *Quantitative Methods*
- c. One full-course equivalent from range 110-149 or 230-234 (survey courses, psychology as a life science)
- d. One full-course equivalent from range 150-189 or 235-239 (survey courses, psychology as a social or human science)
- e. Two full-course equivalents from range 200-229 (laboratory and research courses)
- f. Two full-course equivalents from range 240-289 (upper-level seminars)

2. Groups of Related Courses

A group of related courses is defined as at least four full-course equivalents in a single area or department. Two groups of related courses must be chosen from the following areas or departments:

Biology
 Chemistry
 Classics
 Comparative Literature
 Engineering, Applied Math, or Computer Science
 Economics
 Education
 English
 Environment, Technology and Society
 Foreign Languages and Literatures
 Geography
 Government and International Relations
 History
 International Development
 Management
 Mathematics
 Philosophy
 Physics

There are two restrictions on permissible course sequences within an area or department:

- a. In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes the introductory courses designed for nonmajors.
- b. The courses must form a coherent sequence or program within the context of the department in which a group of related courses is taken. In most cases, this will be self-evident. However, in doubtful cases, the student must consult his or her psychology adviser.

The Honors Program

Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member under whose direction they intend to do research work to submit their names to the full faculty for consideration by the end of the junior year. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides a basis for a thesis which, upon completion, is presented and defended by the student before an examining committee of faculty members. On the basis of the report of the examining committee and the student's adviser for the project, the department may recommend that the students be awarded departmental honors at one of the following levels: highest honors, high honors, or honors in psychology.

DOCTORAL PROGRAM

General Requirements

The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available.

Although a small department cannot reflect the entire spectrum of perspectives toward the study of psychology that one finds in the United States, a considerable number of theoretical orientations are exemplified by the various members of the department. The most important feature of the department's intellectual ethos is an emphasis on theoretically grounded inquiry and conceptually and methodologically rigorous research. In all of the department's programs, including the clinical program, there is a deep concern with conceptual analysis and theoretically grounded and directed inquiry. The department is perhaps unusual on the American scene in the diversity of methods of investigation used by faculty and graduate students in their work and the range of problems taken to fall within the purview of psychologists. Students are acquainted not only with traditional experimental and naturalistic methods, but also with phenomenological, structural, hermeneutic, and other methodologies.

Participation in research is strongly encouraged throughout the graduate experience, the nature of the research being determined by interests a student shares with faculty members. Students are expected to contribute significantly to problem formulation, conceptualization, methodology, analysis, and write-up of research work.

Advisory Committee

A committee consisting of two full-time faculty members will be assigned to help each student plan a curriculum to best meet individual needs and goals. This committee will consist of one faculty member whose work is closest to the student's research interests, and one other assigned by the department. The committee may change or waive any of the requirements of specific training programs, but ordinarily its function is to assist students in selecting a curriculum from within the normal requirements.

Information on other kinds of committees and advisers encountered during graduate work is available in the graduate program brochure.

Coursework

Students ordinarily are expected to take four courses in each semester for their first two years, including *Problem, Theory, and Method in Psychology* (301) and *Statistical Methods* (302) in their first year. In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses and research and reading courses. A total of at least eighteen one-semester courses is required for admission to candidacy for the Ph.D. There are special course distribution requirements in effect for clinical students, and clinical applicants should consult the section on Training in Clinical Psychology for information about course requirements. Content courses include: all graduate seminars; clinical methods courses; *Statistical Methods; Problem, Theory, Method*; and courses numbered 240-289; but do not include research and readings courses unless approved by special petition to the department, nor practicum courses (e.g., 333, 353, 385-388).

Research in the First Year

To encourage each student to become actively involved in research from the beginning of graduate training, a research apprenticeship program exists through which faculty and students can voluntarily begin working on research together during the first year. Participating faculty provide a brief description of current research projects in which students can become involved or notify students about when their project meetings are held. During the first two weeks of each semester students have the opportunity to consider these projects and contact a faculty member to discuss becoming an apprentice in the described research project.

Qualifying Papers

To provide a basis for evaluation of a student's scholarly qualifications for admission to Ph.D. candidacy, all students are required to write four scholarly papers, one during each of the four semesters in the first two years in residence. Each paper should be prepared for reading by a different *full-time* faculty member in the Psychology Department. The topic for each paper is to be agreed upon by the student and the reader and approved by the student's advisory committee. Written examinations and ordinary term papers for courses will not be accepted to satisfy this requirement. All papers must be of reasonable length commensurate with the topic. A copy of each paper is placed in the student's file. Students are encouraged to submit at least one of the four papers for publication in a scholarly journal. All papers must be submitted and evaluated prior to scheduling the oral examination on the M.A. thesis.

Qualifying Examination in Quantitative Methods

All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the student's first year, at the completion of the course in quantitative methods.

M.A. degree

The M.A. degree, a required step in our Ph.D. program, is awarded after satisfactory completion of at least eight one-semester courses or their equivalent; the fulfillment of the departmental qualifying paper requirement; and the execution of an empirical thesis under the supervision of a faculty member and adequately defended in a one-hour examination. The thesis is expected to be relatively brief and may be written in the form of an article suitable for submission to a journal appropriate to the kind of work embodied in the research. All of these requirements for the M.A. degree must be completed by the end of the second year of graduate study. Students who have not completed their M.A. degree by August 1 at the end of the second year are not permitted to enroll as resident students for the third year. Students who do not complete the M.A. degree by the end of the third year ordinarily are not permitted to continue in the Ph.D. program, but are given ample opportunity to complete a master's degree.

Major Paper and Oral Examination

The major paper is normally to be done within one year after completing the M.A. This paper is expected to demonstrate mastery of research and theory in the student's area of specialization. To facilitate completion, students are encouraged to enroll in *Directed Readings* with a faculty member during one or both of the semesters in which the paper is to be completed. An oral examination on this material will be held shortly after the paper has been submitted. If the paper is not finished on time, the faculty will select some of its members to give additional help to these students during the summer. Students who do not complete the paper before August 1 of the third year will not be permitted to enroll as resident students for the fourth year or until the paper is completed.

Admission to Ph.D. Candidacy

Satisfactory completion of at least eighteen one-semester content courses (including 301 and 302), as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree. All the requirements for Ph.D. candidacy, including the major paper, must be met within two years of completing the M.A. Students who do not do so may be dropped from the Ph.D. program.

Ph.D. Dissertation

Students demonstrate the ability to conduct research by the presentation of an acceptable dissertation. The topic of the dissertation usually is selected by students working with one or more members of the faculty. Once students have worked out a general research plan, a dissertation committee is formed to supervise and assist in all phases of the research effort, from articulation of the research design to the write-up of the final draft. After the committee has reviewed the dissertation proposal carefully, the proposal is circulated to all other members of the faculty for comments and suggestions. The dissertation committee then has the authority and responsibility to approve the final form of the proposal before students undertake the actual research. After completion of the research, students submit a draft of the dissertation to the committee, which will aid students in making necessary revisions. At the point that the committee decides that the dissertation is complete and ready for presentation, copies of the dissertation are made available to the entire department faculty.

Ph.D. Oral Examination

Following submission of the dissertation to the department, a final two-hour oral examination is held in which students present and defend their dissertation and show competence in a general field of psychology as well as in their area of specialization.

These guidelines result in an upper limit of six years for completion of the Ph.D. (excluding an internship year or official leave). An additional year may also be granted by faculty approval of a petition on other grounds such as part-time study because of financial necessity. Those desiring more detail on graduate requirements and their timing should request a copy of *Information on the Graduate Program in Psychology*.

Graduate Training in Clinical Psychology

The basic philosophy in training clinical psychology students, as for all graduate students in the department, is that specialization is a process of individuation and emphasis rather than one of restriction, isolation, or compartmentalization. Our aim is to provide an integrated series of intensive educational experiences in class, in laboratory, and in practicum clinical settings (at the University or other agencies) in which specialist training in clinical psychology is attained against a background of increasing competence in general psychology, theory, and research.

In addition to the more traditional opportunities, the program offers: (1) child clinical, (2) human neuropsychology, and (3) marital and family interactions. The program has, in addition to the general requirements, the following special requirements. Students must take at least one course from each of three areas: (1) biological bases of behavior (e.g., physiological psychology, behavior and evolution, human neuropsychology); (2) cognitive-affective bases of behavior (e.g., symbolism, cognitive development, logical reasoning, action and emotion); and (3) social bases of behavior (e.g., interpersonal relations, social cognition). Students must take the following courses in individual behavior: *Psychopathology* (312) and *Theories of Psychotherapy* (332). Students must complete a minimum of one year of internship in clinical settings; they may satisfy this requirement by a full-time internship in the third or fourth year or by an internship "distributed" part-time over several years. All clinical students participate for four years in the Psychological Services Center, a department-operated training agency offering psychodiagnostic and psychotherapeutic services to members of the Clark community. For further information contact Dr. Leonard Cirillo.

Graduate Study in Developmental Psychology

The developmental psychology curriculum is intended to prepare students for a career in research, teaching, and scholarly activity. It strives to impart both theoretical sophistication and competence in observational, experimental, and comparative inquiry with regard to developmental issues. The emphasis is on ways of representing and examining all life phenomena rather than focusing exclusively on a particular population (e.g., infants, children, adults) or a specific subject matter. Within this general framework, however, in-depth training is offered with particular populations and in specific areas (communication, language, symbolization, social relations, parent-infant interactions, cognition, logical reasoning, psychopathology, collective phenomena, and others). In addition to requirements common to all graduate students, those with a concentration in developmental psychology are required to take the *Developmental Psychology Proseminar*.

Since there are no sharp separations between different areas within the department, students who work primarily in developmental psychology have the opportunity to study with other faculty in the department who have an interest in an approach to their areas of specialization. For further information contact the director, Dr. Ina C. Uzgiris.

Graduate Study in Social-Personality Psychology

Perhaps the most distinctive feature of the social-personality curriculum is

its emphasis on the description and analysis of social *experience* and *action*. The faculty members most directly involved have developed different research strategies that tap into the experiences of everyday life and the development of moral action. They focus on the social-emotional aspects of interpersonal relations, the role of affective experience in the choices that persons confront as they lead their lives, and the manner in which persons come to know and experience themselves. While there are no formal requirements in the social-personality area, students are expected to become acquainted with the main approaches to experience and action, and are encouraged to participate in seminars with as many different faculty members as possible. For further information contact the director, Dr. Joseph deRivera.

Graduate Study in Cognitive and Experimental Psychology

Graduate training towards the Ph.D. is offered in the areas of cognition, language, environmental cognition, perception, and sensory psychology. There is a flexible sequence of seminars to cover the theoretical foundations, content, and methodology in those areas, as well as specialized seminars.

Some of the current experimental interests of the faculty include logical cognition, mental imagery, conceptual development, visual perception, sensory psychology, psychophysics of taste and smell, and individual differences in cognitive processing.

In teaching and research the faculty reflects the values traditional at Clark which emphasize theoretical relevance and preserving and exploring the connections among areas of specialization. Faculty and students within and across areas typically maintain extensive and regular interactions. In particular, most of the faculty have close connections with the developmental and social-personality areas, both in teaching and research.

The department also has educational and research ties with a number of institutions in the Worcester-Boston area (e.g., the Neuropsychology Unit of Boston Veterans Administration Hospital, the Worcester Foundation for Experimental Biology, the University of Massachusetts Medical School), as well as other departments at Clark.

For further information contact Dr. Rachel Joffe Falmagne.

Graduate Study in Psychobiology

Students admitted to the Graduate Program in Psychology may elect to concentrate their studies and research in psychobiology. This area of specialization is closely allied with cognitive and experimental psychology in examining the processes of sensation and perception, learning, and social communication, among others, but places a particular emphasis on the biological aspects of these phenomena, utilizing especially the perspectives and techniques of neurobiology, physiology, and ethology. Formal coursework draws on offerings in psychobiology, cognitive and experimental psychology, neuroanatomy, and neuropsychology by our department and offerings in neurophysiology, neurochemistry, and molecular neurobiology in the Departments of Biology and Chemistry. Together, these courses also form the curriculum for the University's Neuroscience Program.

Opportunities for research in psychobiology exist within the Department of Psychology, the Departments of Biology and Chemistry and at affiliated academic institutions in the Worcester Consortium, particularly at the Worcester Foundation for Experimental Biology and the University of Massachusetts Medical School. Current research interests of affiliated faculty concern some aspect of either the chemical senses (taste and smell), social communication, or development. For further information, contact the director, Dr. Thomas A. Schoenfeld.

POSTDOCTORAL TRAINING

The Psychology Department and the Heinz Werner Institute provide postdoctoral training. In addition to individually oriented research and training opportunities, seminars are available for postdoctoral students.

THE HEINZ WERNER INSTITUTE FOR DEVELOPMENTAL ANALYSIS

Associated with the department is the Heinz Werner Institute for Developmental Analysis, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; and third, to train research workers on postdoctoral levels in the comparative-developmental approach to behavior. For more information, write to Dr. Seymour Wapner, chair of the institute's Executive Committee.

COURSES

101 GENERAL PSYCHOLOGY/Lecture, Discussion

Introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings. Staff/Offered every semester

105 QUANTITATIVE METHODS/Lecture

Introduction to the theory and methods of statistical inference, logic of experimental design, and the use of computer statistical packages. Psychology 101 is a prerequisite.

Mr. Laird, Ms. Azar/Offered every semester

110 INTRODUCTION TO PSYCHOBIOLOGY/Lecture

The biological foundations of behavior and mental processing are presented, with particular emphasis on achieving both a working knowledge of the intricacies of brain function and an understanding of the scientific process by which brain-behavior relationships are studied and elucidated. Topics include: the architecture of the brain, how drugs affect the nervous system, the senses and the neural basis for perception, the role of hormones in sexuality and stress, the duality of consciousness, the biological bases of social communication, the neural mechanisms for storing and retrieving memories, and the psychological consequences of neural dysfunction. Students who would like a more rigorous treatment of both neurobiology and psychobiology should take *Neuroscience I and II* (Psych 140 and 141).

Mr. Schoenfeld/Offered every year

120 HUMAN COGNITION/Lecture

Introduction to the study of concepts, memory, language, reasoning, and other higher mental processes. The course provides an introduction to the general perspective and current theoretical questions in the field of cognitive psychology concerning those processes/functions, and provides a survey of recent work on those topics. Objectives are to introduce students to the content area regarding the substantive questions, the empirical work, and the theoretical issues; to stimulate students' critical thinking regarding the relation between theory and evidence; to stimulate substantive interest in various questions; and to develop in students a basic literacy in the area as well as the capacity to think further about questions of interest to them in that area.

Ms. Joffe Falmagne/Offered every other year

130 PSYCHOLOGY OF LEARNING/Lecture

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined. Mr. Stevens/Offered every year

135 THE PARADOX OF ANIMAL SOCIALITY/Lecture

Evaluates a new evolutionary perspective called sociobiology by examining Darwinian theory as it applies to animal social organizations. The course redefines such concepts as natural selection, adaptation, communication, personality, emotions, grouping, and territoriality as they apply to animal behavior. This course is run with much class discussion and emphasis on questioning theories, constructing new models, and arriving at new, clearer definitions. Prerequisite: Introductory biology or psychology normally required, but open to freshmen with special qualifications; please see instructor. Mr. Thompson/Offered every year

140-141 NEUROSCIENCE I and NEUROSCIENCE II/Lecture

A two-semester, two-credit course, covering the basic neurosciences and brain/behavior functions. The courses are taught by staff from the Psychology and Biology Departments, and guest lecturers from the University of Massachusetts Medical School and the Worcester Foundation for Experimental Biology, among others. Prerequisites: Psychology 101 and Biology 100. Staff/Offered every year

142 SENSATION AND PERCEPTION/Lecture

The five senses are studied with special emphasis on visual perception. Focus is on the processes by which information is picked up from the environment and then coded, transformed, and integrated by the sensory systems. Topics include: the neurophysiology of each sensory system, feature detectors, pattern perception, perceptual constancies, visual illusions, space perception, and perceptual development.

Ms. Wiser/Offered every other year

150 DEVELOPMENT IN CHILD AND ADOLESCENT/Lecture

The development of intellectual and social functioning in the child is discussed. Theoretical approaches to conceptualizing change in the developing child are emphasized and contrasted in light of current studies.

Mr. Bamberg, Ms. Budwig, Ms. Uzgoris/Offered every year

155 PSYCHOLOGY AS A HUMAN SCIENCE/Dialogical format

A close examination of attempts by scholars from a wide variety of disciplines (philosophy, history, literature and literary criticism, anthropology, political science, theology, linguistics, semiotics, depth psychology) to describe, understand, and explain complex human action, experience, thought, and production in everyday life. This course is intended to provide a radical alternative to much of current academic psychology, with respect to theories, problems, and methods. Given on a credit/no credit basis. Note: *For Psychology majors*, this course is a prerequisite for upper level psychology courses, 240, 242, 256, 260, 276, 277, 279, 280, 281, and 284. Psychology 101 is *not* a prerequisite for this course nor any of the upper level courses listed here.

Mr. Kaplan/Offered every year

162 PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR/Lecture, Discussion

Offers students a basis for the understanding and application of psychoanalytic (Freudian) concepts. Students are challenged to interpret simple and complex

conflicts in behavior. The course focuses on the way psychoanalysts reason. The final examination requires students to analyze a major literary work from a psychoanalytic perspective. Psychology 101 is *not* a prerequisite.

Mr. Bibace/Offered every semester

170 SOCIAL PSYCHOLOGY/Lecture, Discussion

Contrasts the typical scientific approach to social psychology with a value-oriented approach. Both approaches are applied to understanding the basic processes involved in conformity, love, aggression, group dynamics, and intergroup relations (including community psychology and conflict management). These basic processes are related to the moral choices that confront our society today, such as choices about abortion, capital punishment, gun control, Third World intervention, and the nuclear arms race. In addition to quizzes and a final exam, students are required to undertake two moral actions, one on the personal and one on the political level, and to write short papers evaluating these actions. Psychology 101 is *not* a prerequisite.

Mr. deRivera/Offered every year

172 PSYCHOLOGY OF PERSONALITY/Lecture

Consideration of various theoretical approaches to consistent differences between people, including psychoanalytic, trait, behavioristic, and humanistic theories.

Mr. Cirillo, Mr. Finkel/Offered every semester

173 INTRODUCTION TO ABNORMAL PSYCHOLOGY/Lecture

This course begins with a discussion of the manner in which abnormal behavior has been traditionally defined and the implications of these definitions. A comprehensive overview of the major categories of abnormal behavioral disorders is then provided with an emphasis on theory and research (e.g., schizophrenia, affective disorders, substance abuse, eating disorders, etc.). Special attention is paid to issues of assessment, intervention, and prevention. Psychology 172 is a prerequisite.

Ms. Azar, Mr. Finkel/Offered every year

194 LANGUAGE, EMOTIONS, THOUGHT AND CULTURE/Lecture, Discussion

Designed especially for freshmen and sophomores, this course investigates to what degree the human "mind" and the "soul" are sociocultural products and what role "language" plays in their formation. Specific questions addressed are to what degree languages differ from one another, whether the mind and emotions are separate faculties, and to what degree they can be viewed as parts of different cultural belief systems. The general aim of the course is to create awareness of cultural differences and commonalities, and to relate this to one's background and heritage.

Mr. Bamberg, Ms. Budwig/Offered periodically

201 LABORATORY IN SOCIAL PSYCHOLOGY/Laboratory, Discussion

General principles of experimental design are learned through the design and performance of original experiments in experimental social psychology. Both group and individual experiments are conducted in any of the usual topic areas of social psychology. Prerequisites: Psychology 170, 105, and permission of the instructor.

Mr. Laird/Offered every year

202 LABORATORY IN DEVELOPMENTAL PSYCHOLOGY/Laboratory, Discussion

A general introduction to conceptual issues related to research in the area of human development. Students participate in group research projects involving both observational and experimental techniques and will receive training in all phases of research including formulating research questions, data collection and analysis, and report writing. Prerequisites: Psychology 105, 150.

Ms. Budwig/Offered every other year

203 LABORATORY IN HUMAN COGNITION/Laboratory, Discussion

Experimental studies are conducted in the area of reasoning, categorization, language comprehension, learning, and memory. This course familiarizes students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. The course is designed to teach skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105, 120. (Psychology 120 can be taken the same semester as the lab.)

Ms. Joffe Falmagne/Offered every other year

204 LABORATORY IN EMOTION AND MOTIVATION/Laboratory, Discussion

Includes the design of studies to test ideas about emotions and how they influence our actions, the gathering of data, and ways to report the data to the psychological community. Prerequisite: Psychology 105.

Mr. deRivera/Offered every other year

205 LABORATORY IN CHEMICAL SENSES/Laboratory, Discussion

Concepts of experimental design and method are discussed. Experiments are conducted on the scaling of taste, smell, and flavor. Examples are comparison of the sweetness and pleasantness of different sugars, and determination of the role of odor in flavor perception. Prerequisite: Psychology 105.

Mr. Stevens/Offered every year

206 LABORATORY IN PERSONALITY/Laboratory, Discussion

The issues and problems in psychological research in general and in the personality area in particular are examined, with the problems being exemplified in studies developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such as perceptual defense, motives and performance, self-perception, experimenter influence, and emotions. Prerequisites: Psychology 105; 170 or 172; and permission of the instructor.

Staff/Offered every year

207 LABORATORY IN PERCEPTION/Laboratory, Discussion

A few topics in visual and auditory perception are selected for in-depth examination. Building on knowledge acquired in Psychology 142, students perform experiments, some of them original. Emphasis is on the connections between theories and experiments, research methods, data interpretation, and scientific writing. Prerequisite: Psychology 105, 142 and permission of the instructor.

Ms. Wiser/Offered every year

208 LABORATORY IN CHILD PSYCHOLOGY/Laboratory, Discussion

An introduction to research methods employed in the study of children through

participation in studies carried out by the class. Analysis and write up of results is done individually. Relevant theoretical and methodological issues are discussed with the aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105, 150.
Ms. Uzgis/Offered every other year

209 LABORATORY IN STUDENT ADJUSTMENT TO COLLEGE/Laboratory
The rationale, method, and findings of an ongoing research project at Clark investigating personality and environmental determinants of adjustment to college, with consideration of similar research elsewhere as reported in the professional literature. Relevant issues in psychological measurement are addressed, and each student develops and carries out an empirical investigation pertinent to the course topic. Prerequisites: Psychology 101, 105, 172 and permission of the instructor.
Mr. Baker/Offered every semester

210 LABORATORY IN LANGUAGE AND COMMUNICATION/Laboratory, Discussion
A general introduction to conceptual issues related to research in the area of language and communication. Students participate in group research projects involving both observational and experimental techniques and will receive training in all phases of research including formulating research questions, data collection and analysis, and report writing. Prerequisites: Psychology 105, and 120 or 194
Mr. Bamberg/Offered every other year

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING/Laboratory, Discussion
The illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting is observed. Special consideration is given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students carry out field observations and formulate and execute their own individual projects. Prerequisites: Psychology 105 and permission of instructor.
Mr. Zern/Offered every year

212 LABORATORY IN GENERAL PSYCHOLOGY/Laboratory, Discussion
Students develop skills investigating various aspects of human behavior and experience. *No prerequisites* other than Psychology 101 and 105 and a willingness to bring good questions to the laboratory. Permission of the instructor is required.
Mr. Thompson/Offered periodically

213 LABORATORY IN GROUP DYNAMICS/Laboratory, Discussion
This course investigates the conditions that promote caring and reduce fear in interpersonal and group dynamics. Each student is responsible for leading weekly meetings of one of the discussion groups in 170 (*Social Psychology*). During these meetings we measure the effects that different "exercises" have on our ability and desire to assert ourselves and to care for others. Prerequisite: Psychology 105, 170, and permission of the instructor.
Mr. deRivera/Offered every year

214 LABORATORY IN PSYCHOBIOLOGY/Laboratory, Discussion
The principles of the scientific method are presented as a framework for learning how to design, conduct, analyze, and interpret experiments in psychobiology. Topics for laboratory investigation may include ethology of rodent social behavior, neuroanatomy of the rodent brain, neuropsychology of

feeding behavior, and psychopharmacology of learning and memory. Prerequisites: Psychology 105; 110 or 141; and permission of the instructor. Mr. Schoenfeld/Offered periodically

215 RESEARCH IN EMOTION AND MOTIVATION/Laboratory, Discussion
Working in close collaboration with the instructor, students design, conduct, and present a piece of research that investigates an emotional or motivational phenomenon. Prerequisites: Psychology 204 or permission of instructor. Mr. deRivera/Offered every other year

216 RESEARCH IN STUDENT ADJUSTMENT TO COLLEGE/Laboratory, Discussion
Supervised individual participation in an ongoing research project at Clark investigating personality and environmental determinants of adjustment to college. Prerequisites: Psychology 209 and permission of instructor. Mr. Baker/Offered every semester

217 RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD/Laboratory, Discussion
With roots in Piaget's theories, a constructivist-interactionist approach to the study of development in infancy and early childhood is exemplified through the findings and problems from ongoing research projects. Students each formulate a pertinent study, carry it out, and prepare papers describing their work. Prerequisite: Psychology 208 or another laboratory course. Ms. Uzgis/Offered every year

218 RESEARCH ON CHILD SOCIALIZATION/Laboratory, Discussion
During the semester, students design and carry out a research study exploring the socialization practices of a cultural group within the local community. The results of each study are presented in class and written up as a paper for the course. Readings are tailored to each student's project. Prerequisite: permission of the instructors. Ms. Uzgis, Mr. Wertsch/Offered periodically

219 RESEARCH IN PSYCHOBIOLOGY/Laboratory, Discussion
Students participate in the design, conduct and interpretation of experiments in an ongoing research program in psychobiology. Prerequisites: Psychology 214 and permission of the instructor. Mr. Schoenfeld/Offered periodically

220 RESEARCH IN CHEMORECEPTION/Laboratory, Discussion
Students design, conduct, and interpret research in taste, smell, and flavor. Prerequisite: permission of instructor. Mr. Stevens/Offered every year

221 RESEARCH IN SOCIAL PSYCHOLOGY/Laboratory, Discussion
Students participate in the design, execution, analysis, and interpretation of research on self-awareness and self-knowledge, including areas of emotions, attitudes, and abilities. Prerequisites: previous courses in social psychology and statistics, at least one laboratory course, and permission of the instructor. Mr. Laird/Offered every year

222 RESEARCH IN CONCEPTUAL DEVELOPMENT/Laboratory, Discussion
Students participate in an ongoing research program in collaboration with the instructor in the area of conceptual development. Enrollment limited. Prerequisite: permission of the instructor. Ms. Wiser/Offered periodically

224 RESEARCH ON NARRATIVE DEVELOPMENT/Laboratory, Discussion

This course is designed to give students a training experience in an ongoing research project on the development of narratives. Data are gathered and analyzed according to the causal structure of the events presented in a story to children and according to the protagonist's internal responses at instances crucial versus non-crucial to the story structure. Prerequisite: permission of the instructor.

Mr. Bamberg/Offered periodically

225 RESEARCH IN FAMILY AND CHILD/Laboratory, Discussion

Working in close collaboration with the instructor, students participate in ongoing research projects examining family issues either with children, adolescents, or parent-child dyads. The research takes place within a cognitive behavioral framework. Students, through group and individual discussions with the instructor, develop a question on which they would like to focus, design and conduct a study, and write up their results. Prerequisite: permission of the instructor.

Ms. Azar/Offered every year

226 RESEARCH IN PERCEPTION/Laboratory, Discussion

Students participate in an ongoing research program in collaboration with the instructor in the area of perceptual processing and the components of perceptual development. Enrollment limited. Prerequisite: Psychology 142 and permission of the instructor.

Ms. Wiser/Offered periodically

227 RESEARCH IN SOCIOCULTURAL APPROACH TO MIND/Laboratory, Discussion

Students participate in an ongoing research program in collaboration with the instructor in the area of cultural and subcultural differences. Prerequisite: Psychology 289 and/or permission of the instructor.

Mr. Wertsch/Offered periodically

228 RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENTS/Laboratory, Discussion

Theory, findings, and research problems deriving from an ongoing research program—an organismic-developmental systems approach to the analysis of transactions of persons-in-environment—are discussed. Empirical studies on problems relevant to the research program are formulated and conducted by individual students. A research proposal and final report describing the research project are prepared. Ideally, the research is presented at undergraduate or professional meetings, and a manuscript is prepared for submission to a journal. Prerequisites: Psychology 105 and permission of instructor.

Mr. Wapner/Offered every semester

229 RESEARCH IN THE DEVELOPMENT OF LANGUAGE/Laboratory, Discussion

In collaboration with the instructor, students participate in an ongoing research program in the area of language development. Students are responsible for various phases of research, including preparing literature surveys, data analyses, and interpretation of results. Towards the end of the semester, students prepare a written paper describing their work. Prerequisite: permission of instructor.

Ms. Budwig/Offered periodically

235 SOCIAL DEVELOPMENT/Seminar

Focus is placed on the study of processes of socialization. Beginning with a

critical examination of the historical development of theories and methods underpinning socialization research, the course also focuses on particular topics including attachment, the development of the self, perspective-taking, and moral development. Prerequisite: Psychology 150.

Ms. Budwig/Offered periodically

240 DEVELOPMENTAL APPROACHES TO BEHAVIOR/Seminar

A critical examination of the presuppositions, methods, and empirical inquiries of those concerned with the developmental analysis of diverse kinds of behavioral systems or aspects of systems. Implications of developmental conceptualization for all of the life sciences are discussed. The course also focuses on recent critiques of developmental theories in general (e.g., Foucault, Derrida, Kaplan) as well as critiques (e.g., Carol Gilligan) of specific developmental approaches. Accessible to juniors, seniors, and graduate students. Enrollment limited. Prerequisites for undergraduates: Psychology 155 and permission of instructor. Psychology 101 is *not* a prerequisite.

Mr. Kaplan/Offered periodically

241 COGNITIVE STUDIES OF MIND/Seminar

Focuses on several topics having to do with the workings of the human mind (e.g. Do we use mental images in thinking? To what extent are we rational beings? How is our conceptual knowledge organized?) as they have been studied by cognitive psychologists, philosophers, linguists, cognitive anthropologists, and those in other disciplines. In addition to discussion of theories and issues about each of the topics, the course also examines how psychology, philosophy, linguistics, anthropology, and artificial intelligence can contribute to our understanding of the human mind. The seminar introduces students to the rapidly developing area of interdisciplinary study of mind known as cognitive science, provides familiarity with the framework and basic concepts of that approach, and provides in-depth discussion of some substantive topics of interest. The selection of specific topics discussed is flexible, to accommodate students' interests. Mostly readings and class discussions, with informal introductions to each topic discussed. Prerequisite: Psychology 120 or permission of instructor.

Ms. Joffe Falmagne/Offered every other year

242 PSYCHOLOGY OF LANGUAGE/Seminar

A social-psychological, anthropological, and rhetorical consideration of the various functions of language in human behavior. Deals with the ways in which the linguistic system is used as symbolic action in everyday life, poetry, dreams, and social movements. Also examined are various views concerning the relations between language and thought, language and action, language and knowledge, and language and politics. Open to juniors and above. Enrollment limited. Prerequisite for undergraduate psychology majors: Psychology 155. Psychology 101 is *not* a prerequisite.

Mr. Kaplan/Offered periodically

243 SEMINAR IN PHENOMENOLOGICAL PSYCHOLOGY/Seminar

Describes and analyzes personal experience. Each of the readings describes a different aspect of experience. These are then compared with our own experience of our body, our environment, ourselves, others, our emotions, actions, and thoughts, and with our imagination and our relationship to reality.

Mr. deRivera/Offered every other year

245 DEVELOPMENT IN INFANCY/Seminar

Current research on human infants is examined, with emphasis on relations

between functioning during this period and later in ontogenesis. A view of the child as an organized adaptive system is emphasized. Topics to be considered include learning, intellectual functioning, social relationships, and the beginnings of language. Some consideration is given to deviations from normal development. Prerequisite: permission of instructor.
Ms. Uzgis/Offered every other year

246 PSYCHOLOGY OF PEACEMAKING/Seminar

An examination of the literature on nuclear anxiety and numbing, the motivation of peace activists, conflicts within the peace movement, and the development of a commitment to achieving world peace and justice. Students in this seminar must audit the lectures given in *Introduction to Peace Studies* (Government 111, Sociology 111). Prerequisite: Psychology 105, 170.
Mr. deRivera/Offered periodically

248 CONCEPTS IN THEORIES OF PERSONALITY«NORMAL AND ABNORMAL/Seminar

Considers and analyzes: (1) concepts and issues in theories of personality and (2) concepts used to account for deviant behavior.
Staff/Offered periodically

249 WOMEN IN SOCIETY/Seminar

Includes three related parts: (1) *the context*, including a cross-cultural, anthropological examination of women's cultural status in society; a study of the economic, historical, and environmental factors impinging on the individual (language, media, literature, cultural institutions); and a discussion of the role of biological factors in psychological functioning; (2) *individual functioning*, covering such topics as personality development, life issues of women, achievement, motivation, intellectual functioning, and power; (3) *women's roles and functions in society*, including mothering, work, professional careers, homemaking, politics, and issues relating to role choices and adult development. Objectives are: (a) to promote a broadly based understanding of the cultural, historical, economic, and environmental factors affecting women's development and functioning; (b) to equip students to pursue informed discussions and critical thinking on related issues. Discussions of interactions between cultural, social, psychological, and biological factors are emphasized; extensive bibliographical references are provided.
Ms. Joffe Falmagne/Offered every other year

250 COMMUNICATION: VERBAL AND NONVERBAL/Seminar

Deals with: (1) an analysis of the term *communication* and (2) a study of the varieties of communication patterns for different populations.
Staff/Offered every year

251 LANGUAGE DEVELOPMENT/Seminar

A comprehensive survey of the basic issues and topics involved in the study of language development. The course begins with an examination of the structure of language and the varied uses of language in human activity. Against this background the course turns to the question of how children acquire language, with special emphasis on the contributions of cognitive, social, and language-specific factors in this process. Prerequisite: Permission of instructor.
Mr. Bamberg, Ms. Budwig/Offered every other year

252 SEMINAR IN AGGRESSION/Seminar

The various forms of aggressive behavior are considered from both a theoretical and practical perspective, with strong emphasis on psychological aspects of

aggressive behavior. In addition to obvious forms of aggression, including domestic aggression, homicide, war, and gang violence, aggressive aspects in art, music, and sports and the corporate world are considered. Prerequisite: Psychology 101 (Psych 173 helpful but not required).
Mr. Rosenbaum/Offered every year

253 NARRATIVE DISCOURSE/Seminar

Relates linguistic, cognitive, and social/cultural factors involved in narrative activities such as telling stories, giving testimonies, route descriptions, etc. Special emphasis is given to the study of narratives from developmental perspectives. Prerequisite: permission of instructor.
Mr. Bamberg/Offered periodically

254 INTERPRETATION OF BEHAVIORS TRADITIONALLY SUBSUMED BY "ABNORMAL" PSYCHOLOGY/Seminar

Behaviors such as schizophrenia, depression, hysteria, obsession, and antisocial personality are examined. The goal is to articulate multiple theoretical and relational perspectives regarding what is referred to as "abnormal," assumptions regarding how "abnormality" comes about, methods of treatment, and the assumptions which lie behind them. Students participate in the clinician's "world of action." Students observe, describe, interpret, and prescribe courses of action for sample "cases," which fall within various "abnormal" categories. Prerequisite: Psychology 172 and permission of instructor.
Mr. Bibace/Offered periodically

255 PSYCHOLOGY OF AGING/Seminar

This course introduces the major concepts in human behavior of elderly people, using the family systems perspective and psychodynamic perspective as complementary frameworks for understanding this phase of the lifecycle. In addition to the normal transition in the family system and intrapersonal psychology during late life, the course explores clinical intervention to address family and individual dysfunction caused by the stresses of aging. Sexuality, menopause, grief and loss, Alzheimer's and other dementias, retirement and relocation and elder abuse are covered. The effects of gender, race and ethnocultural context on the experience of aging are also explored. One paper is required; a class presentation or a community project or a second paper satisfies the second requirement.
Ms. Sassen/Offered periodically

256 THE PSYCHOLOGY OF LOVE AND HATE IN LIFE AND LITERATURE/Dialogical Lecture

An examination, via reading and discussing short stories, as well as critical scrutiny of various theories, of the diverse manifestations of love, hate, and kindred emotions in everyday life. The relations of emotional life to attitudes and actions are considered throughout the life span and in social-collective phenomena, as well as psychopathology. Enrollment limited. Prerequisite: Psychology 155 and permission of instructor.
Mr. Kaplan/Offered every other year

257 SEMINAR IN FORENSIC PSYCHOLOGY

The seminar is designed to examine the conflicts which inherently arise between the clinical mental health professions and the criminal justice system. Beginning with contrasting assumptions about human behavior, i.e., determinism versus free will, the course deals with the psychological and legal issues involved in matters such as: the "insanity" defense, the validity of predictions of dangerousness, involuntary commitments to mental hospitals,

the right to receive treatment versus the right to refuse it, and the assessments of competence, informed consent, and passive dangerousness. Requirements include class discussions, a critical paper, and a final examination. Prerequisite: permission of the instructor.

Mr. Finkel/Offered periodically

258 INTERPRETATION OF BEHAVIOR IN EVERYDAY LIFE/Seminar

This course focuses on learning to apply general psychological principles to complex, everyday behaviors. Behaviors portrayed in movies, novels, newspaper accounts, etc., are examined. The objective is to help students learn to describe and interpret behaviors in a coherent manner. The assumptions (epistemological, ethical, political and social) that underlie their interpretive framework are emphasized.

Mr. Bibace/Offered every year

259 PSYCHOTHERAPIES/Seminar

A variety of methods of curing symptoms, solving problems in living, and promoting personal development are considered through class discussion and illustration and through intensive reading of primary sources. Grade depends on written papers as well as class discussion. Prerequisites: Psychology 172 and permission of instructor.

Mr. Cirillo/Offered every year

260 INTERPRETATION OF DREAMS AND OTHER PRODUCTS OF THE IMAGINATION/Seminar

Deals with the exposition, application, and critical evaluation of various systems for the interpretation of dreams and other products of the imagination (poetry, art, mythology). Included for examination are the theories of Freud, Jung, Boss (phenomenological), May (existential), and Burke/Kaplan (genetic-dramatism). Problems of validity of interpretation are discussed, and the relation of dream interpretation to the interpretation of other products of the imagination is examined. Open to juniors, seniors, and graduate students. Prerequisite: Psychology 155 and permission of instructor. Psychology 101 is *not* a prerequisite.

Mr. Kaplan/Offered every other year

261 HUMAN NEUROPSYCHOLOGY, PARTS I and II/Lecture, Discussion

Approximately ten prominent lecturers review and discuss current research. Topics include overview of brain organization, brain electrical potentials, cerebral dominance, neuroanatomy and pathology of language, bilingualism, emotion, and psychosurgery. Yearlong course; divisible. Open to advanced undergraduates and graduate students.

Ms. Oscar-Berman, Ms. Kaplan/Offered every year

263 PERCEPTUAL DEVELOPMENT/Seminar

Addresses the development of visual, auditory, tactile, and kinesthetic abilities during the first two years of life, with special emphasis on visual development. Topics include anatomical and neurophysiological development of sensory systems, space perception, object perception, speech perception, face perception, formation of perceptual categories, and intersensory integration. Several theoretical viewpoints are studied: Gestalt psychology, E. Gibson, Piaget, and T.G. Bower. The questions raised throughout the course include what components of perception are innate, and what components result from maturation, from experience, or from an interplay between genetic and experiential factors? Prerequisite: permission of instructor.

Ms. Wiser/Offered every other year

267 BIOLOGICAL DETERMINISM AND BEHAVIOR/Seminar

Beginning with the deterministic conceptions of its participants, this course explores some intellectual history and contemporary data concerning the idea that behavior is determined by evolutionary history and necessity. Limited to twenty students.

Mr. Thompson/Offered every year

268 COMMUNICATIVE DEVELOPMENT/Seminar

Focuses on various approaches to an understanding of human communication from an interdisciplinary perspective. The course explores the relationship between social, cognitive, and linguistic factors in children's communicative development. Prerequisite: permission of instructor.

Ms. Budwig/Offered periodically

269 MOTIVATION/Seminar

The concept of motivation is examined. Several theoretical models are discussed, including those of psychoanalytic, ethological, and learning theories. Each member of the class makes an oral presentation and submits a paper.

Mr. Stevens/Offered every year

270 ADVANCED TOPICS IN SOCIAL PSYCHOLOGY/Seminar

An intensive treatment of selected areas in social psychological research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; and social/situational determinants of normal, everyday behavior and of antisocial behaviors such as violence, criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor.

Mr. Laird/Offered periodically

271 THEORIES OF FAMILY PROCESSES/Seminar

This course is designed to expose students to the major theories of family processes (e.g., biological, psychodynamic, family life cycle, structural, and behavioral views). Particular emphasis is placed on how the family as a system responds to stress, such as developmental shifts in its members, illness, and psychological disorder. Film and literature portrayals of families are utilized by students to demonstrate their understanding of the various models presented. Prerequisite: permission of instructor.

Ms. Azar/Offered every year

272 FAMILY HEALTH: A BIOPSYCHOSOCIAL APPROACH/Seminar

A biopsychosocial approach to family health which attempts to transcend traditional mind/body and person/family boundaries, this course focuses on contextual approaches to health care, emphasizing collaborative professional models in the interrelationship of psychosocial and biomedical domains. Course reviews biological predispositions to *health* and *disease*, individual psychological factors (e.g., vulnerabilities to stress and coping strategies) in health and illness, and familial factors contributing to roles of "sickness" and "wellness" within a family. The "health care systems" in America and Britain are compared with respect to the sociocultural *values* which underlie "*rationing*" of health care in both countries. Ethical issues, exacerbated by "rationing" for citizens, clinicians, and scientists, are stressed. Prerequisite: permission of the instructor.

Mr. Bibace/Offered periodically

273 CRITIQUE OF PSYCHOLOGICAL THEORIES AND APPROACHES TO SOCIAL SCIENCE/Seminar

A systematic critique of various approaches to an understanding of human behavior and the functioning of the human mind that are operative on the current scene. The approaches examined include psychoanalysis, sociobiology, Piagetian theory, cognitive science, and phenomenological psychology. Open to seniors and graduate students. Enrollment limited. Prerequisite: permission of instructor and Psychology 155 for undergraduate psychology majors. Psychology 101 is *not* a prerequisite.

Mr. Kaplan/Offered periodically

274 DEVELOPMENTAL PSYCHOBIOLOGY/Seminar

The biological foundations and correlates of behavioral development are discussed, with emphasis on the perinatal period. Examples are drawn primarily from the animal literature (rodents, birds, infrahuman primates), treating psychobiological development from ethological and ecological perspectives. The neurological and physiological antecedents of human development are discussed where feasible and particularly with reference to developmental disorders. Topics include: neural and hormonal development, plasticity of visual and olfactory development, early learning and memory, development of bird song, parental behavior, early stress, developmental antecedents of sexual and sexually-dimorphic behaviors, psychobiological aspects of autism and attention deficit disorder. Open to advanced undergraduate and graduate students. Prerequisite: Permission of the instructor.

Mr. Schoenfeld/Offered periodically

275 LANGUAGES OF INDIVIDUALISM AND COLLECTIVISM/Seminar

The course is about psychological and semiotic processes associated with the value systems of different cultural groups. In addition, gender differences are taken into consideration since this has become an issue in recent literature on these differences.

Mr. Wertsch/Offered periodically

276 SYMBOLISM IN EVERYDAY LIFE: MYTH, DREAM, AND SYMBOL/Seminar

A close examination of the processes of symbol formation and symbol interpretation in everyday life activities, in social and religious myths, and in dreams and literature. Both cultural and individual manifestations of symbol formation are examined, and various frameworks for the interpretation of symbols are critically discussed. Open to seniors and graduate students. Enrollment limited. Prerequisite: permission of the instructor and Psychology 155 for undergraduate psychology majors. Psychology 101 is *not* a prerequisite.

Mr. Kaplan/Offered periodically

277 THE CREATIVE PROCESS/Seminar

A critical examination of a number of attempts, in the humanities and human sciences, to describe and/or explain manifestations of creativity in the arts, sciences, and other domains. Major focus is on the factors presumably constituting the creative act, or inherent in creative functioning. Subsidiary attention is paid to conditions in the cosmos, society, or the personality structure supposedly facilitating or inhibiting creative functioning. Among the theorists considered are philosophers such as Aristotle, Kant, Hegel; critics such as Coleridge, K. Burke, A. Koestler; psychoanalysts of various persuasions and degrees of clarity, such as Freud, Kris, Rybroft, Jung, Neumann, Arieti, et al.; and psychologists from various schools. Enrollment limited. Prerequisite:

permission of instructor and Psychology 155 for undergraduate psychology major. Psychology 101 is *not* a prerequisite.
Mr. Kaplan/Offered periodically

278 COGNITIVE DEVELOPMENT FROM INFANCY TO ADOLESCENCE/Seminar

Focuses on an examination of selected research studies and theoretical accounts of concept development, memory, and reasoning, with special emphasis on Piagetian and Soviet perspectives. Prerequisites: permission of instructor.
Ms. Uzgis/Offered periodically

279 DEVELOPMENT OF CONSCIOUSNESS/Seminar

Designed to examine critically various esoteric views concerning the development of consciousness (mind) and stages of consciousness, and to compare and contrast these views with those prevailing in current academic psychology under the titles of personality development and cognitive development. Among the views considered are those deriving from Eastern thought (Vedas, Yoga, Buddhism), Near Eastern thought (Sufiism, Gurdjieff-Ouspensky, Erica) and Western religious and philosophical thought. Among the current views with which these are compared and contrasted are those of Freud, Jung, Piaget, and Werner in psychology, and Cassirer in philosophy. Prerequisite for undergraduate psychology majors: Psychology 155. Psychology 101 is *not* a prerequisite.
Mr. Kaplan/Offered periodically

280 DEPTH PSYCHOLOGY, DEVELOPMENTAL THEORY, AND THEORY OF INTERPRETATION, PART I/Seminar

A critical examination—in light of current views on the nature of interpretation and the nature of signs and symbols—of various conceptions of human development advanced by a variety of thinkers. Although there will be a special emphasis on “depth developmental psychologies” (e.g., Freud, Jung, and their disciples and followers), consideration also is given to the developmental perspectives of Piaget, Werner, and Vygotsky. Focus is on the extent to which conceptions of development, descriptions of development, and “explanations” of development are rooted in tacit commitments of the various theorists to unexamined dogmas as to the nature of reality, the place of mind in nature, the order of values, and the bases for interpretation of signs and symbols. Among the hermeneuticists and semioticians whose work is examined are Cassirer, Gadamer, Ricoeur, Burke, and Culler. Two-semester course. Prerequisite: permission of the instructor. Psychology 101 is *not* a prerequisite.
Mr. Kaplan/Offered every other year

281 DEPTH PSYCHOLOGY, DEVELOPMENTAL THEORY, AND THEORY OF INTERPRETATION, PART II/Seminar

Continuation of Psychology 280. Prerequisite: Psychology 280.
Mr. Kaplan/Offered periodically

283 HISTORICAL BACKGROUND OF CONTEMPORARY PSYCHOLOGY/Seminar

Includes an appreciation of the generative ideas and world hypotheses underlying contemporary psychological approaches and traces the earlier manifestations of these ideas and world hypotheses in intellectual history or history of ideas. Psychology 101 is *not* a prerequisite. Permission required.
Mr. Kaplan/Offered every other year

284 PSYCHOLOGY AND RELATED DISCIPLINES/Seminar

Deals with the linkages or purported linkages between psychology and literature,

psychology and art, psychology and law, psychology and religion, psychology and philosophy, etc. Designed to deal with the two-way relations between various disciplines and psychology and the challenges that these paired disciplines pose for each other. Prerequisites: permission of instructor. Mr. Kaplan/Offered periodically

285 EMOTION AND INTERPERSONAL RELATIONSHIPS/Seminar

What are emotions and how do they affect our behavior and our relationships? The course examines a number of theories about different emotions and our relations with others. Prerequisite: permission of the instructor. Mr. deRivera/Offered every other year

286 CROSS-CULTURAL PERSPECTIVES ON HUMAN DEVELOPMENT/Seminar

Studies of perception, cognition, social relations, and moral reasoning in contrasting cultural environments, especially during childhood, are examined with a view toward clarifying the role of cultural specificity in the development of human competence. Learning about the cultural diversity of childhood is undertaken to facilitate discussion of several conceptions of the impact of cultural context on human functioning. Prerequisite: permission of the instructor. Ms. Uzgiris/Offered every other year

287 SELECTED PROBLEMS IN PSYCHOBIOLOGY/Seminar

An advanced seminar course that discusses contemporary issues in psychobiology. In some cases recent theoretical advances are the focus of the seminar, while in other cases, new research methodologies may be the focus. The course is designed in collaboration with the students and with the goal of keeping them abreast of the latest developments in neuroscience and psychobiology. Staff/Offered periodically

288 LOGICAL COGNITION IN ADULTS AND CHILDREN/Seminar

Covers in depth the current theoretical developments and empirical findings in the areas of logical reasoning in adults and children, especially in linguistic contexts. The course examines the extent to which logical principles are known by adults and children, the way in which that knowledge is represented mentally, and the way in which it may be acquired. The relations between logical development and language development are discussed. The contrasts and connections with the Piagetian perspective are discussed. The aim of the course is to enable students to continue reading on their own in these areas after this introductory background. Prerequisite: permission of instructor. Limited to ten students.

Ms. Joffe Falmagne/Offered every other year

289 MIND IN A SOCIOCULTURAL CONTEXT/Seminar

This is a course designed to explore the ways in which historical, cultural, and institutional settings shape and are shaped by psychological processes. The focus is on the comparative analysis since this provides one of the best ways to understand the role of the types of settings of interest. Analyses are made of ways in which theoretical approaches, as well as subjects of studies, reflect sociocultural settings. Special emphasis is given to ideas from the sociocultural approach developed by Vygotsky and other related theorists. Open to seniors. Prerequisite: permission of instructor.

Mr. Wertsch/Offered every year

290 PSYCHOBIOLOGY OF DISEASE/Seminar

A review of the literature with respect to theoretical and empirical studies of neurobehavioral factors affecting various physical disorders that have psychophysiological underpinnings. Discussion of relationships among physiological, environmental and cognitive components of behavioral functioning. Emphasis is placed on consideration of recent findings in areas of behavioral medicine and psychobiology. Consideration is given to the relative roles of physiology, emotions, and psychophysiological illness. Prerequisite: Psychology 141.

Staff/Offered every year

291 SELF AND EMOTION/Seminar

This course focuses on the processes by which self-knowledge and self-awareness are developed and maintained. Other topics include the development of self-conceptions, self-consciousness, the understanding and control of one's own actions, self-blame, and the effects of actions on attitudes and feelings. Open to students with strong backgrounds in psychology, by permission only. Mr. Laird/Offered periodically

294 NEUROANATOMY AND BEHAVIOR/Seminar

A systematic exploration of the organization and function of the human nervous system. Topics include relationships of cortical and subcortical structures of the brain with the spinal cord and peripheral nerves, and the organization of higher brain circuits that form the anatomical bases of movement, perception, emotion, memory, and thought. Clinical examples bridge neuroanatomy with the neurological and neuropsychological disciplines. Prerequisite: Psych 141 or permission of the instructor.

Mr. Schoenfeld/Offered periodically

295 NEUROENDOCRINE MECHANISMS OF BEHAVIOR/Lecture/Seminar

A comprehensive examination of how neuroendocrine systems influence mammalian behavior. Initially, anatomical and physiological bases for interaction of the nervous and endocrine systems and the various classes of chemical signaling and major neuroendocrine pathways are reviewed. Neuroendocrine control of behaviors such as feeding, drinking, reproduction, and learning are then discussed with emphasis on how different classes of neuroendocrine signals individually and interactively influence specific behaviors. Application of new approaches to the study of the neuroendocrinology of behavior is included. Prerequisite: Psychology 141.

Staff/Offered every year

298 SUPERVISED PRACTICUM AND DIRECTED READINGS IN USE OF PSYCHOLOGICAL KNOWLEDGE AND METHODS IN PRACTICAL SETTINGS/Practicum

Supervised practical experience in a work setting relevant to a topic selected by the student from the subject matter of a psychology course taken previously, with associated bibliographical research. Only one practicum course credit can be applied to the major. May substitute in the major for one of the two required upper level seminars (in the 240-289 range). Evaluation principally on basis of term paper integrating relevant literature and practicum observations. Enrollment must be approved by course coordinator in advance of registration.

Mr. Baker, Coordinator; Staff/Offered every semester

299 HONORS IN PSYCHOLOGY: SENIOR YEAR/Tutorial

Students carry out a research project under the direction of a member of the staff. Prerequisite: permission of department.

Staff/Offered every semester

2991 DIRECTED RESEARCH IN PSYCHOLOGY/Tutorial

An independent study for qualified students not in the Honors Program.

Prerequisite: permission of instructor.

Staff/Offered every semester

2992 DIRECTED READINGS IN PSYCHOLOGY/Tutorial

An independent study for qualified students not in the Honors Program.

Prerequisite: permission of instructor.

Staff/Offered every semester

300 PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY

Devoted to the presentation and critique of different developmental approaches to the individual and his/her ways of functioning in the world. The approaches considered may include: (1) Piagetian, (2) organismic-developmental, (3) Soviet approaches to psychology, (4) Freudian and neo-Freudian, and (5) contrasting nativist or information-processing views. The aim is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It thus provides a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language, and the process of thinking). Several faculty members participate in conducting the seminar.

Mr. Bamberg, Ms. Budwig, Mr. Kaplan, Ms. Uzgiris, Mr. Wertsch, Ms. Wiser/
Offered every other year

301 PROBLEM, THEORY, AND METHOD IN PSYCHOLOGY/Seminar

During the first half of semester one, each faculty member meets once with the class to discuss his/her perspectives and research. Students prepare brief reports characterizing the links among each faculty member's perspective, research, problems, methods, as well as a paper summarizing or integrating all of the faculty perspectives. Students also submit a brief statement on the status of their own research. During semester two, the ethics of the research process are discussed. Students formulate proposals on their master's theses and other research. Constructive criticism of these research proposals is offered by other members of the seminar. At the end of semester two, students submit their research proposals and written reports, which cover the status of their research.

Staff/Offered every semester

302 STATISTICAL METHODS/Seminar

The first semester is devoted to a review of the basic concepts of statistics, such as probability, statistical inference, sampling distribution, t-test and regression, and to nonparametric statistics. The second semester introduces analysis of variance and experimental design.

Ms. Wiser/Offered every year

305 ADVANCED TOPICS IN COMMUNICATION/Seminar

Various theories of human communication are critically examined. Special emphasis is placed on theoretical and methodological issues involved in the study of how meaning is established in social interaction. Specific topics vary from year to year depending on participants' current research interests.

Ms. Budwig/Offered periodically

308 BASIC PROCESSES IN SOCIAL PSYCHOLOGY/Seminar

An examination of the most recent literature on the processes involved in aggression, attitude-change, commitment, community, group identification, and intergroup relations. Particular attention is paid to cultural differences. Mr. deRivera, Mr. Laird/Offered periodically

310 PSYCHOPATHOLOGY OF CHILDHOOD AND ADOLESCENCE/Seminar

Focuses on the origins and course of behavioral maladaptation during the first two decades of life. Problems of assessing and treating psychological disorders are viewed from a developmental perspective, with connections being drawn between normal and abnormal growth processes. In particular, pathological symptomology is related to developmental issues such as early biological regulation, attachment, the family context, peer relations, intellectual development, self-control, sex-role differentiation, and personal efficacy. Selected topics include childhood depression, schizophrenia, eating disorders, borderline states, aggressive and other emotional disturbances, and learning disabilities. Staff/Offered periodically

311a ADULT ASSESSMENT/Practicum

Ms. Kellett/Offered every year

311b MEASUREMENT, ASSESSMENT AND THERAPY/Practicum

Mr. Cirillo/Offered every year

312 PSYCHOPATHOLOGY/Seminar

Theories of psychopathology are examined. Specific phenomena (traditionally called "syndromes") that illustrate general theoretical presuppositions to diagnostic and therapeutic issues in different historical eras are discussed.

Mr. Bibace/Offered every other year

314 THEORIES OF LANGUAGE DEVELOPMENT/Seminar

Beginning with an examination of the structure of language and the varied uses of language in human activity, the course critically examines major theories of how language is acquired by children. Approaches considered may include: (1) nativist, (2) cognitive interactionist, (3) social interactionist, and (4) functionalist. The aim of this seminar is to enable students to integrate current research in the area of language acquisition with developmental theorizing.

Mr. Bamberg, Ms. Budwig/Offered periodically

315 IMITATION, INTERNALIZATION, IDENTIFICATION/Seminar

Concerned with processes involved in self-other differentiation and the influence of significant others in the construction of the self. The writings of J.M. Baldwin, J. Piaget, G.H. Mead, L. Vygotsky, R. Schafer, M. Mahler, and J. Macmurray pertaining to these processes are discussed and relevant research evidence is considered.

Ms. Uzgis/Offered every other year

316 SENSORY PROCESSES AND PSYCHOPHYSICS/Seminar

Psychophysical concepts and methods are discussed, including magnitude estimation and multidimensional scaling. Particular attention is paid to those concepts and methods relevant to studies of taste, smell, and flavor.

Mr. Stevens/Offered periodically

317 BEHAVIOR IN INFANCY/Seminar

Proceeds from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the way infants organize their functioning in the world. Different topics are chosen for an in-depth examination in different years.

Ms. Uzgiris/Offered every other year

318 PIAGET'S THEORY/Seminar

The basic concepts in Piaget's theory of development are critically studied through intensive reading of a selection of his writings. The historical roots of Piaget's concepts as well as their use by him throughout his lifetime are considered. The aim of the course is not familiarization with any particular topic studied by Piaget, but an in-depth examination of some of his theoretical ideas.

Ms. Uzgiris/Offered every other year

319 GENETIC-STRUCTURAL APPROACH TO MENTALITY/Seminar

Devoted to demonstrating how genetic structural approaches, viz., those of Marx, Freud, Jung, Cassirer, Werner, Piaget, and others, deal with the analysis of mentality as revealed in collective and individual activity. Special emphasis on the categories basic to all genetic structural approaches.

Mr. Kaplan/Offered periodically

320 NONVERBAL AND VERBAL BEHAVIORS AND COMMUNICATION/Seminar

This seminar covers three areas: (1) distinction between behavior and communication in verbal and nonverbal events; (2) analysis of pattern of language as a source of data; (3) applicability to interview and psychotherapy.

Mr. Wiener/Offered periodically

321 TOPICS IN DISCOURSE ANALYSIS/Seminar

In the first part of the semester we explore the basic question of how coherence in the monologue (life stories, reports of particular events, route description, etc.) as well as multi-party interactions is achieved. In the second part of the semester we apply some of these issues to ongoing research projects.

Mr. Bamberg/Offered periodically

322 PSYCHOLOGY OF LEARNING/Seminar

Theories, methods, and findings in the psychology of learning are discussed. Attention is given to controversial issues in discrimination learning.

Mr. Stevens/Offered periodically

324 ISSUES IN THEORIES OF PERSONALITY/Seminar

Covers three areas: (1) discussion of general issues in "theories" of personality, (2) further consideration of some issues in different theories (e.g., Freud), and (3) presentation and discussion of one alternative framework.

Staff/Offered every other year

330 PSYCHOBIOLOGICAL PERSPECTIVES IN PSYCHOLOGY/Seminar

A discussion of current issues, problems, and concepts in psychology from the perspective of psychobiology. Students are encouraged to suggest topics of personal interest for discussion within this framework. Possible topics include: biological aspects of mental disorders (schizophrenia, attention deficit disorder, autism, anxiety, depression, etc.), brain lateralization and localization of function, philosophy and psychobiology, the psychobiology of masculinity and

femininity, the psychobiology of emotion, the role of the brain in social behavior.

Mr. Schoenfeld/Offered periodically

331 CHILD ASSESSMENT/Practicum

Devoted to clinical experiences primarily with children. This includes intelligence and projective testing, diagnostic interviewing, and play therapy with children.

Mr. Ciottone/Offered every year

332 THEORIES OF PSYCHOTHERAPY/Seminar

A comparison of various theoretical approaches to psychotherapy is considered.

Staff/Offered every year

333 NEUROPSYCHOLOGICAL ASSESSMENT/Practicum

An overview of the structure and function of the central nervous system is presented. Emphasis is on quantitative and qualitative analyses of standardized and experimental tests of cognitive functions useful in differential diagnosis of neurological syndromes.

Ms. Kaplan/Offered every year

335 SOCIAL EVOLUTION/Seminar

An ongoing colloquy on the evolutionary perspective (in the broadest sense) designed for graduate students in psychology, biology, and geography. Each year the participants agree on a conceptual problem they want to explore during the sessions of the seminar. In recent years, sample problems have included the possible significances of sociobiology to contemporary psychology, naturalism in psychology, neo-Lamarckian approaches to evolutionary theory, the concept of levels of analysis, and dialectical approaches to the evolution of a humane society. Interested graduate students should contact the instructor so that topics can be decided and reading materials can be made available.

Mr. Thompson/Offered every other year

338 SELF-CONCEPT AND SELF-PERCEPTION/Seminar

An examination of research and theory on attributions to self and others and their relationship to action.

Mr. Laird/Offered periodically

339 THE EFFECTS OF EARLY EXPERIENCE/Seminar

An examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis in the course of perceptual, cognitive, and motivation development aimed at conceptualizing these effects within a coherent framework. Evidence from studies of animals and humans is considered.

Ms. Uzgiris/Offered periodically

340 EMOTION AND INTERPERSONAL RELATIONS/Seminar

Uses our knowledge of various emotional transformations (e.g., changes in self-boundary) to develop a precise language for the description of interpersonal phenomena such as merger-separation, dynamics, identification, and the dynamics of family constellations.

Mr. deRivera/Offered every other year

341 LOGIC, LANGUAGE, AND MIND/Seminar

The core questions to be addressed in this seminar concern the relations between logic and mind, and the role of language in logical knowledge. We read and discuss relevant cognitive, developmental, linguistic, and philosophical

works. After a brief introduction to some formal systems of logic, we examine theoretical and empirical work on logical thought; philosophical work on the foundations of logic; various relevant approaches to semantics (including possible world theory and situation semantics); and cognitive and philosophical discussions of the issues concerning human rationality. Regarding the role of language in logical knowledge, we examine how the relation between logic and language has been treated in philosophy and semantics, and we examine developmental discussions of the relation between language and thought as these inform our questions above, specifically, language and logical knowledge. It is assumed that most students will be unfamiliar with this area initially, and the seminar is structured so as to be self-contained and cumulative for all students.

Ms. Joffe Falmagne/Offered periodically

343 CHEMORECEPTION/Seminar

Selected current topics in taste and smell are examined.

Mr. Stevens/Offered periodically

350 CONSULTING/Practicum

Staff/Offered every year

351 FAMILY AND COUPLE THERAPY/Practicum

Practicum training in some special area, e.g., child clinical, family interactions, human neuropsychology. For third- or fourth-year clinical students

Ms. Azar/Offered every semester

352 EXTERNSHIP/Practicum

For third- or fourth-year clinical students.

Mr. Bibace/Offered every semester

353 THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION/Practicum

Mr. Peterson/Offered every year

357 SYMBOLIZATION AND SYMBOLIC ACTION/Seminar

Focuses systematically, and in detail, on one or more of the major approaches to symbolism, symbolization, and symbolic action. The approaches, considered from time to time, include those of Freud and the psychoanalysts; that of Jung and his followers; those of philosophers, such as Ernst Cassirer and Paul Ricoeur; anthropologists such as Victor Turner, Edmund Leach, or Clifford Geertz; literary critics such as Kenneth Burke, Northrop Frye, or Frederic Jameson; semioticians such as Roland Barthes or Umberto Eco; and psychologists such as Werner and Kaplan. On the next occasion, we focus mainly on the seminal writings of Kenneth Burke, examining Burke in the context of these other approaches.

Mr. Kaplan/Offered periodically

358 SYMBOLIZATION AND SYMBOLIC ACTION/Seminar

A research-oriented seminar, adapting certain approaches to issues of symbolism, symbolization, and interpretation. The emphasis in this seminar is on the articulation and execution of empirical or experimental inquiries that are theoretically and conceptually motivated. The principal approach employed is that of genetic-dramatism, (Werner and Kaplan, Kenneth Burke) with the incorporation of certain insights derived from other major students of symbolic processes and symbolic action, e.g., Cassirer, Ricoeur, Perelman, Ong, Jakobson,

Turner, Booth, Barthes, Eco. Prior participation in Psychology 357, though not required, is highly desirable.
Mr. Kaplan/Offered periodically

366 MIND AND COGNITION/Seminar

The underlying general question in this seminar concerns the organization of mind and the development of knowledge. Topics include logic and mind, language and mind, relations between logical development and language, learnability, innateness, induction, and culture and mind. Psychological and philosophical material is discussed.

Ms. Joffe Falmagne/Offered every other year

382 CONSULTATION IN FAMILY PRACTICE/Practicum

Practicum in consultation to residents in family medicine; for third- or fourth-year clinical students.

Mr. Bibace/Offered every semester

383 WORKSHOP ON PROBLEMS AND ISSUES IN CLINICAL PSYCHOLOGY/Seminar

For all clinical students in residence.

Clinical Staff/Offered every semester

385 ETHICAL AND PROFESSIONAL ISSUES/Practicum

For first-year clinical students.

Mr. Baker, Staff/Offered every semester

386 THERAPY I/Practicum

For second-year clinical students.

Mr. Baker, Mr. Bibace, Mr. Cirillo, Mr. Peterson, Mr. Wiener/Offered every semester

387 THERAPY II/Practicum

For third-year clinical students.

Mr. Baker, Mr. Bibace, Mr. Cirillo, Mr. Peterson, Mr. Wiener/Offered every semester

388 INTERVIEWING, EVALUATION AND DIAGNOSIS/Practicum

For fourth-year clinical students

Mr. Baker, Mr. Cirillo/Offered every semester

399.1 RESEARCH IN PSYCHOLOGY/Tutorial

Direction of individual students in their research.

Staff/Offered every semester

399.2 READINGS IN PSYCHOLOGY/Tutorial

A critical analysis of literature in areas related to individual research.

Staff/Offered every semester

399.9 INTERNSHIP IN PSYCHOLOGY/Practicum

Staff/Offered every semester

Russian

See Department of Foreign Languages and Literatures.

Screen Studies

See Department of Visual and Performing Arts.

Sociology

DEPARTMENT FACULTY

Bruce London, Ph.D., *chair*: technology and society, community, sociology of the Third World, social demography

Patricia M. Ewick, Ph.D.: research methods, gender, law, criminology

Joanna Hadjicostandi, Ph.D.: development and underdevelopment, women in development, labor markets, family, drugs and society

James T. Hannon, Ph.D. candidate: social movements, religion, peace studies, aging/life cycle, research methods

Robert J. S. Ross, Ph.D.: urban studies, political sociology, political economy, social policy

Shelly Tenenbaum, Ph.D.: Judaic studies, race/ethnicity, social stratification

EMERITI

Ruth Harriet Jacobs, Ph.D.

Sidney M. Peck, Ph.D.

UNDERGRADUATE PROGRAM

Sociology is the study of society and human variety: of structures, of histories, of biographies. To understand historical and social forces and their relation to individual lives is a requisite first step to acting with freedom, reason, and historical consequence in dealing with the cultural tasks of our times.

A major goal of the sociology program at Clark is to help persons attain a working knowledge of those theories, concepts, methods, and findings of sociology and related disciplines that are relevant to understanding and affecting the origins, development, maintenance, and change of social institutions and forms of social organization.

The department recognizes that not all students majoring in sociology, or taking a number of sociology courses, will want or need to obtain precisely the same kinds of experiences at Clark. To this end, the program has built in a reasonable degree of flexibility, offering the student choices both of courses within general categories and of practical experiences.

Many sociologists study society in order to change it. As a social science faculty, our department is committed to a humanistic perspective. We are concerned about the human situation and the relevance of our scholarship to societal issues and community problems as well as to our individual lives. We

hope to understand the structure and dynamics of human society, on a small or large scale, so that we can contribute to those movements of change in our society that strive to liberate us all from the oppressive conditions of exploitation, discrimination, and alienation.

Sociology is a basis for many different kinds of careers and graduate schools. Feel free to discuss your postgraduate plans with the faculty. Also, ask the department secretary for a copy of our department's handbook (revised yearly) as well as for handouts on employment opportunities and careers.

The departmental major at present consists of nine courses within the department and five additional related courses in other departments selected from a set of focused options; students develop their selections through close consultation with a major advisor. During academic year 1990-91, the department plans a curriculum revision aimed at providing a somewhat more structured experience for majors. Currently, the nine departmental courses are to be divided as follows:

1. One introductory course:
100 *Introduction to Sociology*
2. At least one advanced theory course chosen from:
290 *Sociological Theory: Classical*
291 *Sociological Theory: Contemporary*
297 *Topics in Sociological Theory*
3. At least one methods course:
170 *The Social Research Process*
4. At least two core courses (at the 200 level)
5. In their senior year (or in selected cases, before that) and in close consultation with their advisers, majors select one of the following options:
Option A, *Thesis*: This is usually the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 percent of their senior years to major research problems.
Option B, *Internship*: This is the equivalent of from one to two full courses; it is designed for selected students who seek supervised field training in community or organizational settings. Two internship course equivalents may be applied to major requirements.
Option C, *Coursework*: For those students who do not choose any of the above options, the remaining sociology courses should be taken at the 200 level.

GRADUATE PROGRAM

At the present time, the department is not offering advanced degrees.

COURSES

100 INTRODUCTION TO SOCIOLOGY/Variable format

A general introductory course in the discipline of sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods of inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to gain a sociological perspective on human conduct.

Mr. Ross, Mr. Hannon, Ms. Tenenbaum, Staff/Offered every semester

101 SOCIOLOGY OF EVERYDAY LIFE/Variable format

A version of introductory sociology in which students look at the ordinary events of their past and current life histories to discover the patterns that come from the complex nature of social organization, culture, and social structure. Staff/Offered periodically

105 SELF AND SOCIETY/Lecture, Discussion

An examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology are examined as they illuminate the major, enduring themes that confront human beings over the life cycle individually and collectively: e.g., socialization and the development of identity, conformity, persuasion, aggression and altruism, prejudice, relationship of the individual in community.

Staff/Offered every other year

110 INTRODUCTION TO WOMEN'S STUDIES/Lecture, Discussion

An overview of the field of women's studies, focusing on sociological, historical, psychological, and economic dimensions of the female experience. This course explores: biosocial roots of the sexual division of labor, female socialization, education, sexuality, labor force participation, family roles, aging, the future of feminism.

Staff/Offered every year

111 SURVEY OF PEACE STUDIES

Refer to Peace Studies 111.

Staff/Offered periodically

170 THE SOCIAL RESEARCH PROCESS/Variable format

Provides a general introduction to both the qualitative and quantitative methods used in sociological research. Students learn about these methods by using them in projects of interest to them. Majors may meet the methods requirement by selecting this course, but the course is also available to nonmajors who wish to learn how to investigate social life. Selected studies in various methods are assigned reading.

Ms. Ewick, Mr. Hannon, Staff/Offered every year

200 DIRECTED READINGS IN SOCIOLOGY

Offered for variable credit.

Staff/Offered every semester

203 AMERICAN JEWISH LIFE/Variable format

The main objective of this course is to provide students with an introduction to the social scientific study of American Jewry. We will survey a broad range of topics, such as immigration, economic mobility, intermarriage, Jewish feminism, American Judaism, ethnic identity, anti-Semitism, and political behavior. Throughout the semester, comparisons between Jews and other groups will be highlighted. (Formerly *Sociology of Jewish Americans*.)

Ms. Tenenbaum/Offered every year

204 THE HOLOCAUST: A STUDY OF GENOCIDE/Variable format

This course will enable students to gain an understanding of the origins and history of the Holocaust. Several important topics to be analyzed are: the roots of Nazi anti-Semitism, the implementation of the "Final Solution," and acts of resistance. Throughout the course, we will confront moral issues raised by the study of the Holocaust.

Ms. Tenenbaum/Offered every year

217 BIOGRAPHY AND LIFE HISTORY RESEARCH/Seminar

C. Wright Mills described the sociological imagination as the ability "to grasp history and biography and the relations between the two within society." This seminar is designed as a workshop in sociological imagination, where students develop the methodological skills and theoretical insights essential for conducting

life history research and biographical studies. The emphasis is on students' research, but we will also study different philosophies and approaches to biography by reading outstanding biographies of the obscure and the famous, e.g., Mohandas Gandhi, Virginia Woolf, Martin Luther King, Jr., and Dorothy Day.

Mr. Hannon/Offered periodically

225 SOCIOLOGY OF SEX ROLES/Variable format

The focus of the course is on the sex role socialization process and gender stratification in a contemporary American society. Courtship, marriage, and divorce are discussed. Work roles are considered.

Ms. Ewick, Staff/Offered every other year, or more frequently

239 AGING AND SOCIETY/Lecture, Discussion

This course focuses on the multiple realities of aging in human society. Specific attention is devoted to the history and social role of the aged in the United States. The impact of social structure on the aged requires examination of key issues confronting the elderly, such as employment, retirement, income, housing, health care, education, sexuality, and death. A variety of social programs designed for the aged are critically evaluated. (Formerly *Social Gerontology*.)

Staff/Offered every year

241 SOCIOLOGY OF MEDICINE/Variable format

Examines health and illness as social phenomena. Topics to be covered include social causes of disease, theories of individual response to illness, and the sociology of institutions that attempt to care for and cure the sick. The course also addresses problems in the health care system at the national level and explores solutions to the mounting "crisis" in the provision of health services. Useful to those with general interest, as well as students considering health-related careers.

Staff/Offered periodically

243 POLITICAL SOCIOLOGY/Variable format

Examines structures of social class and power in relationship to stability, conflict, and change in government. Focuses on government relationship to businesses, the economy, and other political interests and behavior. Compares the United States to other industrial countries.

Mr. Ross, Mr. Hannon/Offered every other year

246 SOCIAL PLANNING AND SOCIAL POLICY/Variable format

Introduces the field of social policy. Each semester focuses on a particular theme. Past themes include: poverty, urban planning and social policy, community planning, social consequences of industrial change.

Mr. Ross/Offered every other year

247 CITIES AND SUBURBS/Variable format

Introduces urban sociology. Examines structure and development of American metropolitan areas and community power, with special attention to changing functions of city and suburb. Examines different ways of life in city and suburb.

Mr. Ross/Offered every year

248 SEMINAR IN GLOBAL CAPITALISM

Examines processes of economic and social development in two regional frameworks: changes in the structure of industrial regions of the advanced capitalist countries and changes in the structure of developing and more

peripheral regions. The conceptual framework is that of a global capitalist system undergoing significant transformation in the deployment of labor and capital.

Mr. Ross/Offered every year

249 THE SOCIOLOGY OF DEVELOPMENT AND UNDERDEVELOPMENT/ Lecture, Discussion

This course examines and analyzes the transformation of post-colonial, "Third World" societies undergoing capitalist or socialist development. It discusses theories of "development" in their social, economic, and demographic context. It also explores the international division of labor, labor migration, urbanization, and social and racial stratification.

Mr. London, Staff/Offered every other year

250 CRIMINOLOGY/Variable format

Explores the nature of crime in society, theories about victims of crime, theories about why people commit illegal acts, and the kinds of crime that occur in American society.

Staff/Offered every year

251 MEDIA AND SOCIETY/Lecture, Discussion

Analyzes the history and development of the modern media of mass communications and explores key issues in the sociological analysis of popular culture. A variety of theoretical and methodological approaches to the sociology of mass communications is presented.

Staff/Offered periodically

252 RACE AND AMERICAN SOCIETY/Lecture, Discussion

This course focuses on the political, economic, and social lives of Native Americans, Latinos, African-Americans and Asian-Americans. Some of the specific topics discussed are racism, the civil rights movement, gender, class, popular culture, and public policies. A central assumption of this course is that in order to understand contemporary race relations, we must turn to the historical experience.

Ms. Tenenbaum/Offered every year

255 THE FAMILY/Variable format

Critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar considers comparative, historical, and other analyses of the social role of women vis-a-vis the role relationships inherent in marital institutions.

Ms. Ewick/Offered every year

256 CLASS, STATUS, AND POWER/Variable format

An analysis of the nature and dynamics of social stratification in contemporary society. Economic and political power of the upper class, social mobility, the process of deindustrialization, feminization of poverty, and the intersection of race and class are studied.

Ms. Tenenbaum, Staff/Offered every year

257 CITIES IN GLOBAL PERSPECTIVE/Variable format

There are four dimensions of comparison upon which this course is based: historical; cross-national within advanced capitalism; cross-system of social relations, i.e., capitalist as compared to socialist urbanization; and finally, a contrast between the processes and structures of urbanization in the First and Third Worlds.

Mr. Ross/Offered periodically

259 SOCIOLOGY OF ORGANIZATIONS/Lecture, Discussion

This course examines the theory and practice of organizations from a sociological perspective. Through lecture, directed readings, research, and discussion, students examine major concepts in the historical development of modern organizations (e.g., bureaucracy) and apply their learning to the investigation of selected contemporary problems and issues of complex organizations.

Ms. Ewick/Offered every year

262 SOCIOLOGY OF LAW/Variable format

This course will examine the relationship between law and other aspects of social life, specifically, stratification, morphology, organization and culture. The course will compare law with other methods of social control. Special attention will be directed to the comparison of law and custom. The course also will analyze the three functions of law: deterrence, conflict resolution, and social engineering. Using both historical and cross-cultural materials, the course will examine the validity of such issues as legal evolution and equality under the law. The course will utilize the theoretical works of Marx, Durkheim, and Weber to analyze the nature of law as either a dynamic or static process in society.

Ms. Ewick/Offered every year

263 DEVIANCE/Variable format

This course has two fundamental objectives: (1) to introduce the student to the literature, research, and conceptual problems in the field of deviance and (2) to examine conceptual frameworks out of which contemporary definitions of deviance emerge.

Staff/Offered every year

265 SOCIAL MOVEMENTS/Variable format

Discusses the general characteristics of modern social movements, with the New Left and other protests of the sixties used as extended case examples. Problems of recruitment, organization, and ideology are analyzed. The form of the course depends on the size of registration.

Mr. Hannon, Mr. Ross, Staff/Offered periodically

275 RELIGION AND SOCIETY/Variable format

The interaction between religion and contemporary society (particularly in the United States) is characterized by conflict and controversy concerning the unique relationship between religious organizations and "the State." This course will attempt to analyze the effect of religious organizations on the culture, structure, and policies of contemporary society by exploring, historically and cross culturally, the influence of religion on social existence.

Mr. Hannon/Offered every year

280 SOCIOLOGY OF TECHNOLOGY/Lecture, Discussion

Analyzes the implications of technological change for society and the effect of social processes on technological development. Some of the specific topics discussed are: the differing Utopian, Dystopian, and Marxist views of technology and society; the relationship between technology and environment; the notion of "the imperatives of technology" and the rise of corporate capitalism; and computers and society.

Mr. London, Staff/Offered every year

282 INDUSTRIAL SOCIOLOGY/Variable format

Focuses on the study of social relations in the industrial setting. The course covers the research tradition beginning with the human relations school and

extending through the sociology of work and occupations. A special focus of the course is workers' organizations and the sociology of labor.
Staff/Offered periodically

285 SPECIAL TOPICS IN PEACE STUDIES

Refer to Peace Studies 285.

Staff/Offered periodically

290 SOCIOLOGICAL THEORY: CLASSICAL/Variable format

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on how certain social themes dealing with human relationships were treated by the classic works of outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, and the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas—beginning with Machiavelli and More and ending with Weber and Simmel—is considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France, and Germany. Meets social theory requirements for majors.

Mr. Ross, Staff/Offered every other year

291 SOCIOLOGICAL THEORY: CONTEMPORARY/Variable format

Social developments in the United States during the post-World War II epoch have given rise to a variety of theoretical views in the field of sociology. Diversity of approach and fragmentation of theoretical stance are related to significant changes in social structure and political economy of the United States during the past four decades. The relationship between social theory and political ideology is considered throughout.

Staff/Offered every year

297 TOPICS IN SOCIOLOGICAL THEORY/Variable format

For those who have already taken classical or contemporary theory and also for those who have not done in-depth study of particular theorists but wish to do so. Meets theory requirement for majors.

Mr. Ross, Staff/Offered every other year

299 THESIS STUDIES

Independent study submitted for honors consideration for senior sociology majors. Students should sign up with the faculty member whose areas of interests are most suited to their own. Emphasis is on independent research undertaken with faculty guidance and supervision. Generally requires two credits in each semester of senior year, and culminates with a thesis submitted for honors consideration.

Staff/Offered every year

299.9 INTERNSHIPS IN SOCIOLOGY

Supervised field training in community and organized settings. This is the equivalent of from one to four full courses in sociology. Variable credit.

Staff/Offered every semester

Spanish

See Department of Foreign Languages and Literatures.

Theater Arts

See Department of Visual and Performing Arts

Visual and Performing Arts

Gerald R. Castonguay, Ph.D., *chair*: musicology

Clark's Department of Visual and Performing Arts is composed of individual academic programs in art history, studio art, music, screen studies, and theater arts. Whether students prefer to study the history, criticism, philosophy, and theory of the arts or to engage in the creative activity of studio work, composition, or performance, there are courses, specializations, and majors available. A major in a given area can be the core for a preprofessional program; or, the student may cross traditional disciplinary lines—by double majoring, for instance, or by individually designing a major or combined major that includes two or more areas of study. In consultation with the program director, students who have an interest in the arts but decide to major in other areas may develop a four or five course sequence as a specialization. Specific major requirements for the different programs and their course descriptions are listed below under each program heading. Majors and nonmajors are welcome to participate in the department's programs and courses and to attend its many art exhibitions, film presentations, and musical, dance, and theatrical performances.

ART

PROGRAM FACULTY

Sarah Buie, M.F.A.: graphic design, museum design and interpretation

Bonnie L. Grad, Ph.D.: nineteenth- and twentieth-century art

Donald W. Krueger, M.F.A.: foundation studies, drawing, painting, illustration

Catherine Levesque, Ph.D.: Renaissance and Baroque art

Rhys F. Townsend, Ph.D.: ancient art and archaeology

PART-TIME FACULTY

Jean Borgatti, Ph.D.: African, Native American, and Oceanic art

Elli B. Crocker, M.F.A.: drawing, painting

Stephen DiRado, B.F.A.: photography

Jesseca Ferguson, M.F.A.: foundation studies

Michael Hachey, M.F.A.: foundation studies, sculpture

Lauren J. Kurki, B.F.A.: scenic, lighting, and costume design, technical theater

Leon Nigrosh, M.F.A.: ceramic design

Ron Rosenstock, M.A.: photography

Frederick A. Simon, B.S.: video production

Patricia E. Woods, M.A.: printmaking

ADJUNCT FACULTY

Paul Burke, Ph.D.

John Conron, Ph.D.

EMERITUS

Samuel P. Cowardin III, Ph.D.: Renaissance, Oriental art

Because art reflects the trend of thought and the impact of events of its time, it relates to many other areas of study—history, philosophy, and psychology, to name just a few. Study of art thus enhances one's understanding and appreciation of other disciplines. For students interested in the arts, humanities, or social and natural sciences, the study of art can provide both majors and nonmajors with an especially rewarding and enriching part of liberal arts education. Courses and programs in art offer opportunities to develop critical skills, acquire resources for visual thinking and communication, and engage in personal creative expression. And for both future art scholars and professionals, Clark's art programs provide a solid foundation that will serve them well in their graduate studies or careers.

For information concerning majors and courses, see the art history and studio art program entries below.

Art History and Criticism

The art history major offers a focus within the liberal arts for students interested in the visual arts and the social, cultural, and historical context in which art is created. Majors may specialize in ancient, Renaissance, and modern art history, or other areas of special interest. For those seriously considering teaching, museum and gallery work, arts conservation, or arts management, the major provides a solid foundation for graduate study.

THE ART HISTORY MAJOR

Requirements:

A total of 16 courses are required for the major, of which 10 are art history courses.

1. Art History Courses

- 101 and 102. *Introduction to Western Art* (or equivalent courses or superior advanced placement performance).
- Four courses specializing in a single area (e.g., ancient, Renaissance, modern) including 290, *Senior Project in Art History*.
- Four courses outside the area of specialization.

2. Related Courses

Four courses outside the visual arts but related to the student's area of specialization (e.g., appropriate language courses, or courses in history, literature, music, etc.).

3. Studio Courses

Any two courses in Studio Art.

DOUBLE AND COMBINED MAJORS

The study of art history lends itself well to interdisciplinary approaches, and students may wish to double major in art history and another discipline. In such cases, one course may be subtracted from each of the above areas (see 1 a, b, c; 2; and 3), reducing the total number of courses required for the art history major to 11.

A combined major in art history and studio art, requiring a minimum of 8 art history courses, may be developed in consultation with the art history and studio art program advisors.

NONMAJORS

All courses and seminars in the art history program are open to qualified nonmajors. Students whose major lies in another discipline may wish, in addition, to pursue a focus in art history.

REQUIREMENTS FOR A FOCUS IN ART HISTORY:

1. 101 and 102: *Introduction to Western Art*
2. Four additional courses, no more than two of which may be in one area of specialization (i.e., ancient, Renaissance/Baroque, modern).

COURSE NUMBERS AND LEVELS

100-104	Introductory courses
105-119	Survey courses in ancient art
120-139	Survey courses in Renaissance and Baroque art; usually no prerequisites
140-149	Survey courses in modern art
150 +	Survey courses in non-Western art and special approaches to the study of art
205-219	Intermediate and advanced courses and seminars in ancient art
220-235	Intermediate and advanced courses and seminars in Renaissance and Baroque art
240-245	Intermediate and advanced courses and seminars in modern art

COURSES

101 INTRODUCTION TO WESTERN ART I/Lecture, Discussion

Surveys ancient and medieval art. The class devotes the first weeks to an examination of the basic elements in the visual arts and to aspects of terminology and methodology to be encountered in works discussed during the semester. We then study selected monuments as exemplars of style and artistic quality in the context of the leading ideas of their respective eras.

Mr. Townsend, Ms. Levesque/Offered every year

102 INTRODUCTION TO WESTERN ART II/Lecture, Discussion

Surveys Western art from the Renaissance to the present. The class devotes the first weeks to an examination of the basic elements of the visual arts and to aspects of terminology and methodology to be encountered in works discussed during the semester. We then study selected works as exemplars of style and artistic quality in the context of the leading ideas of their respective eras.

Ms. Levesque, Mr. Townsend/Offered every year

103 MASTERPIECES OF WESTERN ART/Lecture, Discussion

A one-semester survey of topics selected to introduce some of the most basic issues raised in examining a work of art. The works chosen reflect the significant traditions of western art, while the loose chronological framework serves to link the artists and their works with general notions about our civilization. Among the artists and monuments included in the course are: the Parthenon, Chartres, Raphael, Michelangelo, Bernini, Bruegel, Rembrandt, Monet, Picasso, and Frank Lloyd Wright.

Ms. Levesque/Offered periodically

105 THE AEGEAN WORLD/Lecture, Discussion

An introductory survey of architecture, sculpture, and painting in Egypt, Mesopotamia, and the Aegean during the Bronze Age, the course covers the Old and New Kingdoms of Egypt; the great dynasties of Sumer, Akkad, and Babylon; and the cultures of the Aegean islands, Crete, and mainland Greece. Examines and compares artistic forms and traditions of each region in order to shed light on the individual religious and social contexts in which they evolved and to reveal the differing conditions under which these civilizations emerged. Highlights the renowned archaeologists whose discoveries have illuminated the history and artifacts of these lands. Includes field trips to area museums.

Mr. Townsend/Offered every other year

106 INTRODUCTION TO ARCHAEOLOGY/Lecture, Discussion

Concentrating on the Mediterranean region, the course traces the history and methods of archaeology—emphasizing its unique combination of the sciences and the humanities—from its faltering but enthusiastic first steps to its technologically advanced state today. Selected case studies, which involve the student's active participation, will demonstrate how archaeology has illuminated the ancient world. A special concern will be the newly developed field of underwater archaeology, which has contributed so much to our understanding of the history of seafaring.

Mr. Townsend/Offered every other year

109 CLASSICAL MYTH AND THE GREEK IDEAL/Lecture, Discussion

Investigates a select number of classical myths and the concept of the "Greek ideal" as expressed in art, both in classical Greece and Rome and in various later periods, including the twentieth century. We approach the myths from the standpoint of origin and significance, changing modes of representation, and manipulation for political purposes. The concept of the Greek ideal is also examined both as it originally developed and as it was conceived in subsequent ages. Throughout, the changing attitudes towards the classical world and the significance of the classical tradition in art and history are emphasized. Includes field trips to area museums.

Mr. Townsend/Offered every other year

110 ANCIENT GREEK ART/Lecture, Discussion

This intensive survey extends chronologically from the Dark Ages following the collapse of the Minoan-Mycenaean world in the 12th century B.C. to the close of the Hellenistic period in the first century B.C.; geographically, it reaches from Greece itself westward to the Greek cities of South Italy and Sicily, and eastward to the Hellenized lands of Asia Minor, Egypt, and the Near East. Within this context, discussion includes the concept of artistic originality and stylistic development, the relationship between art and politics, and the contribution of Greek art to the subsequent history of the visual arts in the Western world. Field

trips to the Worcester Art Museum and the Museum of Fine Arts in Boston are included.

Mr. Townsend/Offered every other year

111 ROMAN ART AND ARCHITECTURE/Lecture, Discussion

Refer to course description under Classics 111.

Ms. Duncan-Groeneweg/Offered every other year

114 ANCIENT CITIES AND SANCTUARIES/Lecture, Discussion

An introduction to the great urban and religious centers of the ancient world. The course examines the concept of the city as it first evolved in the Near East and as it developed in classical Greece and Rome. Emphasis is placed both on the design and structure of urban spaces and on the factors affecting town planning. We discuss the famous ancient sanctuaries not only as areas of religious worship, but also as centers of cultural activity involving theater, art, athletics, and politics. Throughout, both cities and sanctuaries are viewed in their historical setting as part of the larger civilizations which nurtured them.

Mr. Townsend/Offered every other year

120 THE HISTORY OF PRINTS/Lecture, Discussion

An introduction to the development of printmaking in Europe from the fifteenth through the twentieth centuries. The aim of the course is to familiarize the student with the most important graphic techniques and at the same time, to explore evolving attitudes toward prints and printmaking.

Ms. Levesque/Offered every other year

124 NORTHERN RENAISSANCE ART/Lecture, Discussion

An examination of Northern European art—particularly in the Netherlands—during the fifteenth and sixteenth centuries. Particular attention is given to the major innovators of the period: Jan van Eyck, Rogier van der Weyden, Hugo van der Goes, Jerome Bosch, Albrecht Durer, and Pieter Bruegel. Their work, and that of other artists, is studied in the context of cultural, social, and religious values of the time.

Ms. Levesque/Offered every other year

125 ITALIAN RENAISSANCE ART/Lecture, Discussion

This course examines the development of the Renaissance in Italy during the fifteenth and sixteenth centuries. Concentration on three centers—Florence, Rome, and Venice—places the achievements of individual innovators within a particular cultural context.

Ms. Levesque/Offered every other year

131 BAROQUE ART/Lecture, Discussion

The close study of several seventeenth century artists, including Caravaggio, Bernini, Rubens, Rembrandt, Velazquez, and Poussin. Particular consideration is given to how each of these artists expresses the naturalism, psychological acuity, and religious sensibility that are generally viewed as characteristic of Baroque art.

Ms. Levesque/Offered every other year

134 SEVENTEENTH-CENTURY DUTCH PAINTING/Lecture, Discussion

An introduction to Dutch painting of the seventeenth century. Works by Frans Hals, Rembrandt, Jan Vermeer, Jan Steen, Jacob Ruisdael, and other artists are viewed as part of a wider artistic and cultural context. Throughout the course,

emphasis is placed on the relationship between naturalism of representation and the contemporary language of symbols.
Ms. Levesque/Offered every other year

140 MODERN ART: NINETEENTH CENTURY/Lecture, Discussion

This course is a survey of the revolutionary movements in European art including Neoclassicism, Romanticism, Realism, and Impressionism. We examine the formal characteristics of these styles and the cultural and social context from which they emerged. In particular, we study the development of landscape painting in England and France, the origins of an "avant-garde," and the relationship of painting to photography after 1845.
Ms. Grad/Offered every other year

141 IMPRESSIONISM/Lecture, Discussion

In this course we trace the development of Impressionism over three decades: from the early works of Manet to the last Impressionist Exhibition in 1886. We examine in great depth both the stylistic development of individual artists—Manet, Monet, Renoir, Degas, Cezanne, Cassatt, Morisot, and Pissarro—and the cross-fertilization of ideas between and amongst them. In addition, we study the highly finished academic paintings of the Jonas and Susan Clark Collection to illustrate what kind of art the Impressionists were reacting against as well as the kind of art that was widely popular at the time Impressionism failed to win critical acceptance. Finally, we consider the social and cultural context from which urban and rural impressionism emerged.
Ms. Grad/Offered every other year

142 MODERNISM/Lecture, Discussion

This course begins where Impressionism ends—in 1886, the year in which the twentieth century is said, by some, to have arrived. After a brief survey of Post Impressionism, we trace the blossoming of the modern imagination as it developed in the modern movements of Fauvism, Cubism, German Expressionism, Suprematism, Constructivism, and Surrealism.
Ms. Grad/Offered every other year

143 ART SINCE 1945/Lecture, Discussion

A survey of the major movements of contemporary American and European art, including abstract expressionism, environments and happenings, pop art, minimalism, earth art, and the new realism. We explore the increasing importance of the commercial environment, popular culture, and technology as a major theme in the art of the sixties. Each student assumes the separate roles of artist and art historian—both creating an object (or objects) and formally analyzing a museum work—as a means of coming to terms with formal and critical issues.
Ms. Grad/Offered every other year

144 MODERN LANDSCAPE ART: 1750-1970/Lecture, Discussion

Traces the development of landscape painting in Europe and America from 1750 through the recent past. Focuses on both the stylistic development of this art form and the cultural and social context in which it originated and flourished. Examines historical and social factors including urbanization and the birth of modern town planning, sanitation, water supply and park design; industrialization and technology; the rise of tourism; and the "commercialization" of the landscape. Emphasizes the role of landscape in the development of twentieth-century painting.
Ms. Grad/Offered periodically

155 ART OF AFRICA, OCEANIA, AND NATIVE AMERICA/Lecture, Discussion

Focuses on the art of the Yoruba of Southern Nigeria, the Northwest Coast Native Americans, and selected cultures of New Guinea. Aims to develop in the student an appreciation for the art forms, cultural settings, and distinctive aesthetic in non-Western culture. Where possible, students will be expected to make aesthetic and stylistic judgments concerning original material.

Ms. Borgatti/Offered every year

156 ARTS OF BLACK AFRICA/Lecture, Discussion

An introduction to the major traditions of art in the western Sudan and Guinea coast, the Niger delta and equatorial forest, the southern savanna, and southern and eastern African fringe. Emphasis rests on formal, conceptual, and historical links between the cultures and art forms considered.

Ms. Borgatti/Offered every year

159 SOCIAL VALUES IN TECHNOLOGY AND ART/Lecture, Discussion

A joint venture of the art history and ETS programs, this course aims to educate students in the history of technological development and the history of art by studying both analytical texts and artistic interpretations of the changes that technology triggered in society. We focus on the implications of technological change on social values and structural transformations in society. Selected art works reflect both dynamic changes caused by the development of new technologies and how the subject matter of new technologies inspired radical stylistic change. This course offers a novel approach to integrating scientific analysis and the broader perspective of art historical interpretation.

Ms. Grad and Mr. Renn/Offered every other year

181 ART AS ARTIFACT/Seminar

An intensive study of individual works of painting and sculpture that emphasizes the contribution of media, technique, and context to meaning. Some consideration is given to questions of connoisseurship (attribution and condition) insofar as these factors influence what we see. A number of classes are held at the Worcester Art Museum.

Ms. Levesque/Offered every year

183 ART CRITICISM/Lecture, Discussion

This course surveys the writings of the major American and English art critics active from 1945 to the present. Through these writings of major critics, the student becomes familiar with a variety of methodologies and viewpoints, including formalism, neoconservatism, Marxism, and feminism. Critics include Clement Greenberg, Harold Rosenberg, Hilton Kramer, Dore Ashton, Lawrence Alloway, Rosalind Krauss, Donald Kuspit, Lucy Lippard, and John Berger, among others. (Readings vary from year to year.) Several field trips to Boston area galleries occur throughout the semester. Writing intensive. 143·*Art Since 1945* is recommended but not required.

Ms. Grad/Offered every other year

215 THE TEMPLE BUILDERS: ARCHITECTURE IN ANCIENT GREECE/Lecture, Discussion

Traces the evolution of monumental architecture in Greece from its origins in the Geometric period through its development in Archaic, Classical, and Hellenistic times. Emphasis is on the integration of craftsmanship, or *techné*, with elements of design in the Doric, Ionic, and Corinthian orders. Discussion includes the relationship between architect and patron, the social role of architecture, and its political impact. In addition, students will become familiar

with questions and problems of modern investigation and reconstruction of ancient buildings.

Mr. Townsend/Offered periodically

219 SPECIAL TOPICS: ANCIENT ART/Seminar

This seminar introduces students to specific issues and approaches in the study of ancient art. Topics vary each time the seminar is taught. The course develops the student's research, oral presentation, and writing skills through intensive study that is not possible in the context of a survey course. While the seminar is specifically designed for majors, qualified students from other disciplines are most welcome. Course may be taken for credit more than once.

Mr. Townsend/Offered periodically

239 SPECIAL TOPICS: RENAISSANCE AND BAROQUE ART/Seminar

This seminar introduces students to specific issues and approaches in the study of Renaissance and Baroque art. Topics vary each time the seminar is taught. The course develops the student's research, oral presentation, and writing skills through intensive study that is not possible in the context of a survey course. While the seminar is specifically designed for majors, qualified students from other disciplines are most welcome. Course may be taken for credit more than once.

Ms. Levesque/Offered periodically

248 WOMEN AND ART/Seminar

This course explores both the history of women artists and the circumscribed nature of their professional involvement in the art institutions of their day. It also explores specific topics and questions: women as subjects in art; femininity and masculinity as cultural constructs; the concept of "genius" as myth; and the nature of objectivity. Readings include Linda Nochlin, Thalia Gouma-Peterson, Lucy Lippard, Rozsika Parker and Griselda Pollack, and John Berger.

Ms. Grad/Offered every other year

249 SPECIAL TOPICS: MODERN ART/Seminar

This seminar introduces students to specific issues and approaches in the study of modern art. Topics vary each time the seminar is taught. The course develops the student's research, oral presentation, and writing skills through intensive study that is not possible in the context of a survey course. While the seminar is specifically designed for majors, qualified students from other disciplines are most welcome. Course may be taken for credit more than once.

Ms. Grad/Offered periodically

250 THE JONAS AND SUSAN CLARK COLLECTION/Seminar

This is an upper-level multidisciplinary course which examines in detail the American landscape and European genre paintings of this small collection. The course considers the historical context in which the collection was formed, with special emphasis on the Clark's interest in paintings of women, nature, and oriental scenes. Course may be taken for credit more than once.

Ms. Grad/Offered every other year

290 SENIOR PROJECT IN ART HISTORY

Required of all majors in art history and criticism.

Staff/Offered every semester

2991 DIRECTED READINGS

Staff

2995 SPECIAL PROJECTS

Staff

2996 SPECIAL TOPICS

Staff

2999 INTERNSHIP

Staff

Studio Art

Studio courses are open to all students, majors and nonmajors alike. Students interested in studio art but majoring in other disciplines may develop a complementary four- or five-course sequence in any of the fields of study within the program, such as graphic design, photography, or others. Certain studio courses satisfy the University's *aesthetic perspective* requirement.

In addition to course offerings, there are also exhibitions of the work of contemporary artists, course-related exhibitions, and exhibitions of senior thesis work in the University Gallery; field trips to galleries and museums as part of several studio courses; and, in the University Center's Craft Studio, opportunities for extracurricular involvement in arts and crafts activities .

THE STUDIO ART MAJOR

The studio art major is designed to meet a number of student needs and interests: preprofessional preparation for graduate study and/or a career in art, design, art education, arts management, art therapy, or other arts-related fields; the satisfaction of personal interest in art and design; significant involvement in the creative process; and a meaningful focus of liberal education.

The studio major affords a high degree of flexibility in developing a program suited to individual needs and changing interests. A strong advising program assists students in curriculum planning, identifying areas of major interest, and preparing for graduate study or a career. Areas of specialization include drawing and painting, photography, graphic design, illustration, printmaking, sculpture and three-dimensional design, and screen production.

The studio art major normally consists of 14 courses: 12 studio courses which, with approval of the program advisor, may include studios in music, theater, screen, cartography, as well as student-initiated non-traditional experiences; and two art history courses, at least one a survey. In certain circumstances and with department approval, fewer studio art courses—but no less than eight—may fulfill the major. Eight studio courses also are the normal component of a double major or student-designed major.

Admission to the studio art major and to the honors program is selective, and students are expected to maintain an above-average academic record. Admission to the major will occur, with department approval, only after the student has fulfilled the requirements of the University's Program in Liberal Studies (or the equivalent). Students considering majoring in studio art should complete one or both of the introductory "studio perspective" courses—100 and 102—before making a final decision.

HONORS IN STUDIO ART

Students with a strong interest in art and design and a commitment to intensive study and who have completed 12 studio courses with at least a B average may, with department approval, elect the honors sequence: two 200-level studios and a two-semester, two-credit senior thesis. Students are expected to use the honors courses and thesis to develop a body of preprofessional studio work in preparation for graduate study or a career in the arts. The thesis

may be done only as a senior and normally will be exhibited at the end of the year.

COMBINED AND DOUBLE MAJORS

A combined studio art-art history major, requiring a minimum of eight studio courses, may be developed in consultation with the studio and art history program advisors. The studio program advisor will assist in developing a studio component, normally eight courses, as part of a double major.

COURSES

100 and 102 are "studio perspectives" designed to introduce students to the nature of visual language and the process of creative thought and action and to encourage the development of visual communication and expression skills. Although not prerequisites for other studio courses, these courses are recommended for majors and nonmajors as an introduction to and preparation for additional work in studio art. The specific content of each course may vary with the instructor.

100 VISUAL STUDIES—DESIGN/Studio, Lecture, Discussion

A consideration of the process of visual perception and visual problem-solving—figure-field relationships, two-dimensional pattern and form, and theory and dynamics of color. Problems in three-dimensional design may be introduced at the discretion of the instructor. Open to nonmajors.

Mr. Krueger, Mr. Hachey, Staff/Offered every year

102 VISUAL STUDIES—DRAWING/Studio, Lecture, Discussion

A consideration, primarily through drawing, of the more subjective aspects of visual language, of basic concepts of space and picture plane, and of contemporary modes of visual thinking and expression. Collage and elementary painting problems may be introduced at the discretion of the instructor. Open to nonmajors.

Mr. Krueger, Mr. Hachey, Staff/Offered every year

120 INTRODUCTION TO PHOTOGRAPHY: THE ZONE SYSTEM/Studio, Lecture, Discussion

An introduction to the art and craft of black-and-white photography, emphasizing the zone system and including camera operation, developing, printing, and finishing techniques. Students must have a variable setting 35 mm camera with a built-in or hand-held exposure meter, and must provide their own film and paper. Open to nonmajors. Prerequisite: permission of instructor.

Mr. Rosenstock, Mr. DiRado/Offered every semester

121 INTERMEDIATE PHOTOGRAPHY/Studio, Lecture, Discussion

Continues the refinement of photographic seeing and darkroom techniques. Considers contemporary modes of photography and emphasizes development of personal vision. Open to nonmajors. Prerequisite: 120 or acceptable portfolio, and permission of instructor.

Mr. Rosenstock, Mr. DiRado/Offered every year

124 INTRODUCTION TO GRAPHIC DESIGN/Studio, Lecture, Discussion

Introduces the process of solving communication problems through the synthesis of verbal and visual information. Consideration of design forms (book, poster, brochure, sign, map, exhibition) from historical and aesthetic viewpoints; introduction to selected media (typography, drawn and photographed images,

color) through studio exercises and applied problems. Open to nonmajors.
Ms. Buie/Offered every year

125 GRAPHIC DESIGN PROJECTS/Studio, Lecture, Discussion

Intermediate level projects in graphic design. Open to nonmajors. Prerequisite: 124 or permission of instructor.

Ms. Buie/Offered every year

128 DRAWING/Studio, Lecture, Discussion

The study of drawing with emphasis on the nature of drawing as opposed to the representation of nature—an analytical approach using object, figure, landscape, and imaginative imagery. Open to nonmajors.

Ms. Crocker, Staff/Offered every year

132 DRAWING AND PAINTING/Studio, Lecture, Discussion

An introductory course investigating material and subject possibilities and beginning, through drawing and painting, a process of artistic experimentation and self-examination. Individual and group critiques, discussions, and experimentation with contemporary painting idioms. Open to nonmajors.

Ms. Crocker, Staff/Offered every year

133 PAINTING/Studio, Lecture, Discussion

A continuation of the study of painting with increasing emphasis on individual development and direction. 102 or 132 recommended as preparation. Open to nonmajors.

Ms. Crocker, Staff/Offered every other year

136 THREE DIMENSIONAL FORM AND SCULPTURE/Studio, Lecture, Discussion

An introduction to modes of three-dimensional creation through a variety of traditional and contemporary materials and concepts. Alternating emphasis on sculptural objects, the human figure, and issues of architectural/environmental expression. Open to nonmajors.

Mr. Hachey/Offered every year

137 SCULPTURE PROJECTS/Studio, Lecture, Discussion

An intermediate-level course leading to the development of personal direction and expression in three-dimensional form. Open to nonmajors. Prerequisite: permission of instructor.

Mr. Hachey/Offered periodically

150 CERAMIC DESIGN/Studio, Lecture, Discussion

An exploration of three-dimensional form, using clay as a plastic medium. Emphasis is on developing an awareness of sculptural form and formal interrelationships in nature, art, and architecture. Open to nonmajors.

Mr. Nigrosh/Offered periodically

154 CERAMIC DESIGN PROJECTS/Studio, Lecture, Discussion

Intermediate work in clay design in relation to individual technical and stylistic development. Emphasis is on sculptural—including architectural—design rather than utilitarian function. Open to nonmajors. Prerequisite: 150 and/or permission of instructor. May be taken for credit more than once.

Mr. Nigrosh/Offered periodically

158 PRINTMAKING—INTAGLIO/Studio, Lecture, Discussion

Introduction to the techniques and aesthetic of intaglio printing—primarily

hard- and soft-ground etching methods, embossment and aquatint—on metal plates. At the discretion of the instructor, the course may include methods of engraving, drypoint, and collagraph. Open to nonmajors.
Ms. Woods/Offered every year

162 PRINTMAKING—MONOTYPE AND RELIEF/Studio, Lecture, Discussion
The study of techniques of monotype printing as an integration of drawing, painting, and printmaking, and the investigation of black-and-white and color lino and woodcut relief printing. Open to nonmajors.
Ms. Woods/Offered every year

167 SCREEN PRODUCTION—VIDEO/Studio, Lecture, Discussion
An introductory workshop in seeing and thinking in electronic imaging techniques and processes. Open to nonmajors.
Mr. Simon/Offered every semester

171 SCREEN PRODUCTION PROJECTS—VIDEO/Studio, Lecture, Discussion
Intermediate individual and/or group work in video. Open to nonmajors. Prerequisite: 167 or appropriate video production course(s) and permission of instructor.
Mr. Simon/Offered every year

174 CONTEMPORARY DIRECTIONS/Studio, Lecture, Discussion
An intermediate-level course. Experiential examination of current movements, directions, styles, and attitudes in art. Open to nonmajors. Prerequisite: appropriate introductory course(s) and/or permission of instructor.
Staff/Offered periodically

182 BASIC TECHNICAL THEATER
See listing under Theater Arts 120.
Ms. Kurki/Offered every year

183 TECHNICAL THEATER II
See listing under Theater Arts 122.
Ms. Kurki/Offered every year

184 DESIGN FOR PERFORMANCE
See listing under Theater Arts 123.
Ms. Kurki/Offered every year

185 SCENERY AND COSTUME PROJECTS
See listing under Theater Arts 125.
Ms. Kurki/Offered every year

186 THE PHYSICAL THEATER
See listing under Theater Arts 126.
Ms. Kurki/Offered every other year

187 ENVIRONMENTAL STUDIO
See listing under Theater Arts 127.
Ms. Kurki/Offered periodically

200 PHOTOGRAPHY PROJECTS/Studio, Lecture, Discussion
Continues the study of the techniques and aesthetics of black-and-white photography. Students have the opportunity to pursue individual photographic projects in the size and format of their choice. Open to nonmajors. Prerequisite:

120 and/or 121 and permission of instructor.
Mr. Rosenstock, Mr. DiRado, Staff/Offered every year

208 TYPOGRAPHY/Studio, Lecture, Discussion

Study of typographic art through studio exercise and applied problems that deal with the organizational and expressive natures of type. Prerequisite: 124 and 125 or permission of instructor.

Ms. Buie/Offered every year

234 STUDIO TOPICS/Studio, Lecture, Discussion

An advanced course. Students from all studio disciplines develop individual work in response to thematic issues presented through readings, research, and discussions. Required as the first semester of the senior thesis.

Mr. Krueger, Staff/Offered every year

250 PHOTOGRAPHY STUDIO/Studio, Discussion

Advanced, professionally oriented, individual photographic study. May be taken for credit more than once. Prerequisite: appropriate intermediate and advanced courses and permission of instructor.

Staff/Offered every year

254 GRAPHIC DESIGN STUDIO/Studio, Lecture, Discussion

Advanced problems in graphic design. May be taken for credit more than once. Prerequisite: appropriate intermediate/advanced graphic design courses and permission of the instructor.

Ms. Buie/Offered every year

256 SEMINAR IN CARTOGRAPHIC DESIGN

See listing under Geography 274.

Mr. Steward/Offered every year

258 DRAWING AND PAINTING STUDIO/Studio, Discussion

Advanced, professionally oriented, individual drawing and painting study. May be taken for credit more than once. Prerequisite: appropriate intermediate/advanced drawing and painting courses and permission of instructor.

Staff/Offered every year

262 ILLUSTRATION STUDIO/Studio, Discussion

Advanced, professionally oriented projects in contemporary editorial, book, magazine, and advertising illustration. May be taken for credit more than once. Prerequisite: appropriate intermediate/advanced drawing and painting (and/or photography) courses and permission of instructor.

Mr. Krueger/Offered every year

266 SCULPTURE STUDIO/Studio, Discussion

Advanced, professionally oriented, individual study of sculpture and spatial and three-dimensional design. May be taken for credit more than once. Prerequisite: appropriate sculpture experience and permission of instructor.

Mr. Hachey/Offered every year

270 PRINTMAKING STUDIO/Studio, Discussion

Advanced, professionally oriented, individual study in printmaking. May be taken for credit more than once. Prerequisite: appropriate printmaking experience and permission of instructor.

Ms. Woods/Offered every year

278 SCREEN PRODUCTION STUDIO/Studio, Discussion

Advanced projects in video production. May be taken for credit more than once. Prerequisite: appropriate intermediate-level screen production courses and permission of instructor.

Mr. Simon, Staff/Offered every year

280 SENIOR STUDIO/Studio, Discussion

Advanced, preprofessional, independent work under faculty supervision, in one of the studio media. May be taken for credit more than once. Prerequisite: appropriate advanced courses and permission of instructor.

Staff/Offered every year

289 SENIOR THESIS

Required of honors students; optional for studio art majors. The development of a body of preprofessional work to be presented to the faculty with oral and written thesis support.

Staff/Offered every year

2995 SPECIAL PROJECT

Staff

MUSIC

PROGRAM FACULTY

Gerald R. Castonguay, Ph.D., *program director*: musicology

Linda J. Dusman, D.M.A.: theory, composition, electronic and computer music

Brian Belet, D.M.A.: theory, composition, electronic and computer music

PART-TIME FACULTY

Robert Chadwick, M.Mus.: bassoon

Louisa Striker Damiano, B.M.: French horn

Mary Ferrante, B.A.: voice

David Hodgkins, M.Mus.: conducting, choral director

Bruce Hopkins, M.Mus.: trumpet

Cleland Kinloch Earle, B.M.: violin

William Malone, M.Mus.: clarinet and saxophone

Richard A. Odgren, B.M.: jazz studies, jazz piano

Catherine Fuller, M.Mus.: piano

Suzanne E. Stumpf, B.A.: flute

Robert Paul Sullivan: guitar

Toshimasa Francis Wada, M.Mus.: conducting, orchestra director

ADJUNCT FACULTY

Hartmut Kaiser, Ph.D.

EMERITUS

Wesley M. Fuller, M.Mus.: theory, composition, electronic and computer music

The music program offers two majors—one in theory, composition, or history, and one in performance—and a concentration, as well as courses and activities for the nonmajor. Courses are designed to teach students to listen to music intelligently, to develop musical perception, to master basic skills of music and apply them creatively, and to acquaint students with representative works from various periods of music history. The study of music can open new

perspectives on many aspects of culture and society, and the program stresses the advantages of combining professional musical development with the humanistic breadth offered by a strong liberal arts education.

Courses are open to nonmajors as well as to majors, and assignments are designed to suit the different goals and backgrounds of the students in each category.

Prospective students considering a music major may wish to contact the program director to arrange for a placement test, which may be administered through Clark or through an authorized person at the student's current place of study. Although not required, this test enables the faculty to assess the student's present musical development and to offer informed advice. In some cases, it is possible to offer advanced theory placement as a result of the test.

THE MUSIC MAJOR: THEORY, COMPOSITION, OR HISTORY

Requirements:

1. Theory: 120, 121, 122, 123, 124, 125
2. Music History: 11, 12, 13, 14, 15, 16
3. Private Study: 180 (Four semesters of private instruction taken after completion of Music 120 or equivalent)
4. Performing Groups: a minimum of four semesters in 107, 117, 127, 130, or 137
5. Related areas: a full course in aesthetics, art, theater arts, or screen studies
6. A minimum-skills test, including sight-singing and dictation at a level of proficiency necessary for successfully pursuing the major, must be passed during the sophomore year. A keyboard proficiency test must be passed during the junior year.

The theory, composition, or history music major also requires individual tutorial work in the area of emphasis, usually undertaken only in the senior year. The major culminates in one of several types of final projects, such as theoretical studies, papers in historical research, or compositions (including electronic music). The four semesters of private lesson fees in these three areas (see requirement 3 above) are covered by regular tuition payment.

THE MUSIC MAJOR: PERFORMANCE

Requirements:

1. Private Study: 180 (A minimum of six semesters taken after completion of Music 120 or equivalent)
2. Theory: 120, 121, 123, 124, 125
3. Music History: 12, 13, 14, 15, 16
4. Performing Groups: a minimum of four semesters in 107, 117, 127, 130, or 137
5. Related areas: a full course in aesthetics, art, theater arts, or screen studies
6. A minimum-skills test, including sight-singing and dictation at a level of proficiency necessary for successfully pursuing the major, must be passed during the sophomore year.

For the performance music major, private lessons are taken throughout the major program. Any entering student who plans to pursue the performance music major must request an audition and assessment of his/her potential regarding the major. Formal admission into the performance major requires a second audition at the start of the sophomore year. The performance major culminates with a senior recital and a seminar dealing with stylistic analysis of the music to be performed in the recital. At least four appearances in student recitals, including a half-recital during the junior year, precede the senior recital. The lesson fee in the performance music major is covered by regular

tuition payment during the sophomore through senior years. It is strongly urged that *Basic Skills I and II* (Music 120 and 121) be successfully completed by the end of the sophomore year.

SPECIAL PROGRAMS FOR NONMAJORS

CONCENTRATION IN MUSIC

The concentration in music is intended for students with an interest in music but whose major lies in another discipline. The music concentration centers on a core of studies in one of five areas: performance, electronic music, jazz studies, music criticism, or music theory.

General Requirements (prerequisites for area requirements):

1. Music 10
2. Music 120

Area Requirements:

- Concentration in Performance:
Three semesters of Music 180. (For information on tuition coverage, see Music 180 course description.) Students who wish to specialize in performance should arrange for an audition by contacting the program director. Audition will determine acceptance into the concentration.
- Concentration in Electronic Music:
Music 140, 141, 90
- Concentration in Jazz Studies:
Music 131, 132, 133
- Concentration in Music Criticism:
any three of the following: Music 113, 114, 115, 116
- Concentration in Music Theory:
Music 121, and any two of the following: Music 122, 123, 124, 125

PREPROFESSIONAL PROGRAMS

Students interested in professions such as music therapy, concert management, or music education may individually design a major that combines music courses with appropriate courses from other disciplines. The requirements for such preprofessional programs are jointly determined by the student and an advisory committee made up of one music faculty member (who serves as chair) and two faculty members from other disciplines.

Although the music program does not offer specific courses in music education, music majors interested in music education may take courses in the music curriculum and practice teaching through the education department.

FOR NONMAJORS

All of the courses, seminars, and activities in the music program—with the exception of senior tutorials (118, 128, 138, 148)—are open to qualified nonmajors.

Performing Organizations: Nonmajors and majors may audition for a variety of organizations, including the Clark Concert Choir, the Clark Chamber Orchestra, Instrumental Chamber Ensembles, and the Jazz Workshop.

Private Lessons for majors and nonmajors are offered with or without credit in several areas. See course descriptions for Music 180 and 18.

INTRODUCTORY COURSES

10 INTRODUCTION TO MUSIC/Lecture, Discussion

Designed for the nonmajor, the goal of this course is to expand the concept of

the musical experience and to develop discriminating listeners. Taught jointly by several faculty members, it also provides an introduction to the music program. The course includes an introduction to principles of rhythm, pitch, timbre (and their notations); the principles of structure; the aesthetics of music; specific forms including fugue, sonata form, variations, etc.; and selected historical styles.

Staff/Offered every semester

MUSIC HISTORY

11 MEDIEVAL AND RENAISSANCE PERIODS/Lecture, Discussion

Beginning with early Christian chant, this survey includes a study of the medieval song and motet. We also study the growth of polyphonic secular and sacred music through the sixteenth century, culminating with the study of the Renaissance mass and madrigal. When possible, works are performed in class; scores are used for the majority of works studied.

Mr. Castonguay/Offered every other year

12 BAROQUE PERIOD/Lecture, Discussion

A survey of music from 1600 to 1750, this course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class and scores are used for works studied.

Mr. Castonguay/Offered every other year

13 CLASSICAL PERIOD/Lecture, Discussion

This survey of music from the 1720s to the early decades of the nineteenth century focuses on the Italian, French, and Viennese styles. Special emphasis is given to the music of Haydn, Mozart, and Beethoven and to the important musical genres of chamber music, symphony, and opera.

Mr. Castonguay/Offered every other year

14 ROMANTIC PERIOD/Lecture, Discussion

Surveys the music of the major composers of the nineteenth century. The musical style and selected works of Schubert, Mendelssohn, Schumann, Chopin, Brahms, Tchaikovsky, Wagner, and others are studied within the literary and artistic setting of nineteenth-century society.

Mr. Castonguay/Offered every other year

15 TWENTIETH-CENTURY MUSIC I/Lecture, Discussion

A survey of early twentieth-century masterworks. Representative composers include: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Prerequisite: 10 or 120.

Ms. Dusman, Staff/Offered every other year

16 TWENTIETH-CENTURY MUSIC II/Lecture, Discussion

A study of important works composed primarily since 1950. Composers include Stravinsky, Cage, Carter, Boulez, Messiaen, Stockhausen, and others. Prerequisite: 10 or 120.

Ms. Dusman, Staff/Offered every other year

19 WORLD MUSIC/Lecture, Seminar

Students study and listen to the differences and likenesses in music from a wide variety of cultures and consider the ways in which music—ranging from classical art music to music for work and communal celebration—functions

within cultures. Musics of India, Africa, Japan, China, and Iran are some of the recurring areas. Guest performers of ethnic music are part of the course.
Ms. Dusman, Staff/Offered every other year

113 J.S. BACH AND HIS MUSIC/Lecture, Seminar

Investigates the social, historic, and cultural setting of Bach's era, and encompasses study of his music, including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works are performed in class and scores are provided for the majority of works studied.

Mr. Castonguay/Offered every other year

114 BEETHOVEN: THE MAN AND HIS MUSIC/Lecture, Seminar

Explores the social and historical background of Beethoven's Vienna and focuses on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career.

Mr. Castonguay/Offered every other year

115 AMADEUS: THE LIFE AND MUSIC OF W.A. MOZART/Lecture, Seminar

Explores the music and life of Mozart from his early years as a child prodigy to his mature years as an outstanding genius and struggling artist in Vienna. Studies will include selected masterworks from his symphonies, piano concertos, operas, piano sonatas, and chamber music.

Mr. Castonguay/Offered periodically

116 FRENCH IMPRESSIONISM/Lecture, Seminar

Deals primarily with the music and cultural life of Paris from 1870 to 1925. Encompassing a wide range of styles—including the mature and late works of César Franck and Gabriel Fauré, the major works of Claude Debussy, Erik Satie, and Maurice Ravel, as well as the early works of Igor Stravinsky—the course will focus on the analysis of selected works and will explore the rich cultural and social setting of Paris during this period.

Mr. Castonguay/Offered periodically

118 SENIOR TUTORIAL IN MUSIC HISTORY

For majors only. Full course. Prerequisite: permission of instructor.

Staff/Offered every semester

With permission of the program director, the following courses offered by other departments may be taken for music history, criticism, and theory credit.

German 197 THE FAUST THEME IN LITERATURE AND MUSIC

See listing under German 197, Foreign Languages and Literatures.

Mr. Kaiser/Offered every other year

MUSIC THEORY

120 BASIC SKILLS I/Lecture, Tutorial, Lab

This beginning course in the fundamentals of music requires no previous musical training. Students learn to understand, hear, recreate, and write the basic elements of the pitch and rhythmic notation system, including scales, keys, and elementary melodic and harmonic organization. Skill training begun in this course via labs and computer-assisted instruction enables the student to pursue more successfully private instrumental or vocal instruction and to begin work in composing and arranging.

Ms. Dusman, Staff/Offered every fall

121 BASIC SKILLS II/Lecture, Tutorial, Lab

Continuation of *Basic Skills I*. A study of basic tonal harmony through the secondary dominant. Small form composition and analysis in the various textures: homophony (chorale), monody (melody plus accompaniment), and two-voice counterpoint. Includes a weekly eartraining and musicianship lab that incorporates computer-assisted instruction.

Ms. Dusman, Staff/Offered every spring

122 THEORY: MODAL COUNTERPOINT/Lecture, Tutorial

Contrapuntal styles in two-, three-, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121.

Ms. Dusman, Staff/Offered every other year

123 THEORY: EIGHTEENTH-CENTURY COUNTERPOINT/Lecture, Tutorial

Compositional and analytical problems in the eighteenth-century contrapuntal idiom, two- and three-part inventions, canon, and fugue. The thoroughbass practice of the seventeenth- and eighteenth-centuries also is explored. Final project: the composition of a three- or four-voice fugue. Prerequisite: 121.

Ms. Dusman, Staff/Offered every other year

124 THEORY: NINETEENTH-CENTURY PRACTICE/Lecture, Tutorial

Deals with problems in analysis, composition, and orchestration in the chromatic style of the nineteenth century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. The harmonic language of impressionism, with its emphasis on scalar control, also is examined. Prerequisite: 121.

Ms. Dusman, Staff/Offered every other year

125 THEORY: TWENTIETH-CENTURY PRACTICE/Lecture, Tutorial

Compositional techniques of major twentieth-century composers are analyzed and used as a basis for compositional assignments. Prerequisite: 124 or permission of instructor.

Ms. Dusman, Staff/Offered every other year

128 SENIOR TUTORIAL IN COMPOSITION

For majors only. Full course. Prerequisite: permission of instructor.

Staff/Offered every semester

131 JAZZ THEORY/Lecture, Tutorial

Includes a study of the rhythmic/harmonic/melodic structures of jazz, the scalar basis of improvisation, and voicing practice as it pertains to scoring for small and large ensembles. Prerequisite: 120 or passing of 120 placement examination.

Staff/Offered periodically

132 JAZZ HISTORY/Lecture, Tutorial

Centers on a study of the evolution of jazz style from its nineteenth-century beginnings to the present day: African roots, minstrels, ragtime, Dixieland, swing, bop, progressive, cool, free-form, and third-stream. A research paper and a final exam are required. Half course.

Staff/Offered periodically

133 TUTORIAL IN JAZZ COMPOSITION

The student writes original scores for performance by workshop ensemble.

Prerequisite: 131 and permission of instructor.
Staff/Offered periodically

138 SENIOR TUTORIAL IN THEORY

For majors only. Full course. Prerequisite: permission of instructor.
Staff/Offered every semester

SPECIAL OFFERINGS

90 DIRECTED STUDIES IN ELECTRONIC MUSIC/Studio, Lecture, Discussion

Advanced work in any of the main areas of electronic music: composition, hardware or software design, and psychoacoustics. Work may center on either analog (synthesizer) or computer music. Resources of the Tri-College Group for Electronic Music and Related Research are made available to students. Prerequisite: 140, 91.

Ms. Dusman, Staff/Offered every year

91 COMPUTER GENERATED SOUND/Studio, Lecture, Discussion

Course studies basic theory of how a computer generates sound, along with the principal synthesis techniques used in computer music. Students learn to use a particular computer music program and produce taped examples of assignments. The main studio is built around a Digital MicroVax II, and the class is also introduced to a MIDI-studio using a personal computer and Yamaha sound synthesis keyboards and modules. Small group tutorials are given in the studios, each student has private time in the studios, and individual projects are developed in the last weeks of the course. Students should have some background in either music or computers. By permission only.

Ms. Dusman, Staff/Offered every year

140 INTRODUCTION TO ELECTRONIC MUSIC/Studio, Lecture, Discussion

Explores electronic music as a natural, historical, and artistic result of twentieth-century musical and technological achievements. A group of important musical works is studied. Directed work in the analog synthesizer studios is a major component.

Ms. Dusman, Staff, and faculty members of the
Tri-College Group for Electronic Music/Offered every year

141 SOUND INVENTION WORKSHOP/ELECTRONIC

A studio workshop that instructs students in the use of the Clark Electronic Music Studio's sound-making and processing equipment. Members of the workshop acquire basic skills of synthesizer use, taping, and mixing, and develop a personalized project, such as a soundtrack for a film or videotape, a tape music composition, music for a theatrical event, or sounds for visual installations. Prerequisite: permission of instructor.

Ms. Dusman, Staff/Offered periodically

2991 DIRECTED READINGS

2995 SPECIAL PROJECTS

2996 SPECIAL TOPICS

2999 INTERNSHIP

PERFORMANCE COURSES

180 PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE

Areas offered include: piano (Staff), jazz piano (Mr. Mueller), voice (Ms. Ferrante), clarinet and saxophone (Mr. Malone), flute (Ms. Stumpf), classical guitar (Mr. Sullivan), violin (Mr. Kim), french horn (Ms. Damiano), trumpet (Mr. Hopkins), bassoon (Mr. Chadwick), and conducting (Mr. Wada, Mr. Hodgkins). Lessons are for credit. In areas not currently offered at Clark, the music program will find a qualified instructor. Award of credit in the off-campus study requires special permission from the music program director. No credit is awarded for off-campus study in those areas currently available at Clark. Prerequisite: Music 10 and 120.

Maximum number of credits and tuition coverage:

- Majors in theory, composition, or history: four credits covered by tuition
- Majors in the performance: six credits covered by tuition
- Nonmajors specializing in music: three credits covered by tuition

Staff/Offered every semester

18 PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE

Lessons are not taken for credit. Areas offered: same as 180 above. Lessons not taken for credit require no prerequisite, and the fee is not covered by tuition. Staff/Offered every semester

130 JAZZ WORKSHOP/Rehearsal, Performance

Includes ensemble performance practice with weekly rehearsals throughout the year. An audition is required. Credit is possible for those concurrently enrolled in or having previously passed 131. Offered as a half-course; maximum transcript credit allowed is one full course.

Staff/Offered every semester

134 CHORAL MUSIC AND CONDUCTING/Lecture, Tutorial

Styles of choral music from different periods are studied with the aid of scores and recordings. Students learn basic choral conducting techniques. Prerequisite: 121 or permission of instructor.

Mr. Hodgkins/Offered periodically

148 SENIOR TUTORIAL FOR PERFORMANCE SPECIALIZATION

Majors specializing in performance analyze historically and theoretically the music they will perform in their senior recital. A term paper is required.

Staff/Offered every semester

The following musical activities are open to all undergraduate and graduate students. Auditions are held during the first week of each semester. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity or activities for which he or she was registered.

107 CHAMBER MUSIC ENSEMBLES/Rehearsal, Performance

The number of small ensembles is determined by the performing talent in a given year. Admission is by audition.

Staff/Offered every semester

117 CLARK CHAMBER CHORUS/Rehearsal, Performance

This is a small, specialized singing group chosen by the conductor from the larger Clark Concert Choir. Admission is by audition.

Mr. Hodgkins/Offered every semester

127 CLARK CONCERT CHOIR/Rehearsal, Performance

A chorus of 40 to 50 voices, the choir presents two major concerts each year on the Clark campus as well as off-campus appearances.

Mr. Hodgkins/Offered every semester

137 CLARK CHAMBER ORCHESTRA/Rehearsal, Performance

Made up of students and instrumentalists from the community, the orchestra presents two major concerts each year. Admission is by audition.

Mr. Wada/Offered every semester

Screen Studies

PROGRAM FACULTY

Marvin D'Lugo, Ph.D., *program director*: Spanish and Latin American cinema

Dana Benelli, Ph.D. candidate: American film, documentary cinema

Marcia Butzel, Ph.D.: French cinema, Italian cinema, screen theory and criticism

Walter Schatzberg, Ph.D.: German cinema

Michael K. Spingler, Ph.D.: French cinema

PART-TIME FACULTY

Nancy Cook, A.B.D.: American film

Steven Kostant, M.S.: arts and media technology

UNDERGRADUATE PROGRAM

The screen studies program deals with arts and artifacts of the moving two-dimensional image, usually combined with sound; it is concerned, in other words, with the study of film, broadcast television, and other forms of video. The program stresses the importance of a liberal arts background, for the screen arts touch upon and are affected by all sectors of contemporary culture and society. Classes provide a core of basic and advanced knowledge of the screen arts and media, while encouraging students to explore diverse connections and influences, ranging from the visual arts, drama, literature, and aesthetics to sociology, psychology, history and economics.

Nonmajors take screen studies courses for many different reasons: to acquire knowledge that relates to their interests in other disciplines, to gain a better understanding of the roles film and television play in their everyday lives, or to understand the importance of the screen media as cultural and artistic forms.

Those considering careers in the screen arts or related areas usually major in screen studies. In addition to being of special benefit for those planning graduate study or a career in the communications fields, the major also may be of interest to those seeking a liberal arts education that speaks directly to questions of contemporary life, culture, and the arts.

Students interested in film and video production may take the studio art program's production courses and/or gain production experience through professional internships.

THE SCREEN STUDIES MAJOR

Requirements:

1. A minimum of 10 courses in screen, including:

- a. 101, *Introduction to Screen Studies* (to be taken as early as possible)

- b. At least three screen history courses, including a minimum of two of the following: 120, *History of American Narrative Film*; 121, *Survey of International Film Movements*; 122, *History of Broadcasting and Television*.
 - c. At least one screen theory course (usually 231, *Film Theory*).
 - d. One course in a national cinema chosen from the following: 146 *Introduction to Cinema in Spain*; 148 *Introduction to Cinema in Latin America*; 150 *New German Cinema*; 155 *Studies in Italian Cinema*; 163 *History of French Cinema Before World War II*.
 - e. An advanced-topics course resulting in a major term paper. (Usually 290, *Advanced Problems in Screen Studies*, or 2995, *Special Project*, when the latter results in original research or intensive critical analysis or intensive theoretical reading and analysis).
 - f. One practicum course, normally Studio Art 167, *Screen Production—Video*. No more than two practicum courses may count toward the minimum of ten screen courses required for the major. (If students do take additional practicum courses, they will count toward graduation, but not toward the major.)
2. Demonstrated competence in an outside area pertinent to the student's particular emphasis in screen studies. The student demonstrates competence in an outside area by accomplishing one of the following:
- a. Completing requirements for a double major, or,
 - b. Completing five courses that together form a mutually coherent group—disciplinary or interdisciplinary—related to screen studies. At least three of the courses should be advanced. Courses forming the outside area will be chosen on the basis of consultation with and approval by the major advisor.

Note: The courses listed below are designated as lecture, discussion, or seminar. However, all screen studies courses include viewing of films and/or television programming. Students are usually required to attend separate screening periods in addition to lecture, discussion, or seminar sessions.

101 INTRODUCTION TO SCREEN STUDIES/Lecture, Discussion

Introduction to screen arts, with emphasis on critical thought and analysis. Special attention is paid to styles and forms used to organize image and sounds in individual works, and to critical analysis and theoretical argumentation. Fulfills prerequisites for advanced screen studies courses. Staff/Offered every semester

120 HISTORY OF AMERICAN NARRATIVE FILM/Lecture, Discussion

Intensive overview of the national cinema which has been strongest socially and economically, and which is also often regarded as the most influential in an aesthetic sense. Consideration of "Hollywood" film-making from social, economic, and aesthetic viewpoints. Staff/Offered every other year

121 SURVEY OF INTERNATIONAL FILM MOVEMENTS/Lecture, Discussion

Broad survey designed to acquaint students with major foreign movements in cinema history. Includes readings on and screenings of examples selected from Italian silent epics, early Scandinavian cinema, German Expressionist and Weimar cinema, Soviet montage school, Soviet socialist realism, British documentary school, Nazi cinema, Italian neo-realism, Japanese classical cinema, French New Wave, post-New Wave political cinema, Third World cinema, New German Cinema, and various Eastern European schools. Staff/Offered every other year

122 HISTORY OF BROADCASTING AND TELEVISION/Lecture, Discussion
Overview of the history of the broadcast media, from the invention of radio through the development of the television networks and cable transmission. Attention is paid to the aesthetics of the medium, typical programming characteristics, social implications of broadcast materials, and the economic-industrial infrastructure of broadcasting.

Mr. Kostant/Offered every year

146 INTRODUCTION TO CINEMA IN SPAIN

See listing under Spanish 146.

Mr. D'Lugo/Offered every other year

147 STUDIES IN SPANISH CINEMA

See listing under Spanish 147.

Mr. D'Lugo/Offered every other year

148 INTRODUCTION TO CINEMA IN LATIN AMERICA

See listing under Spanish 148.

Mr. D'Lugo/Offered every other year

149 STUDIES IN LATIN AMERICAN CINEMA

See listing under Spanish 149.

Mr. D'Lugo/Offered every other year

150 NEW GERMAN CINEMA/Lecture, Discussion

See listing under German 150.

Mr. Schatzberg/Offered every other year

155 STUDIES IN ITALIAN FILM: NEOREALISM/Lecture, Discussion

See listing under Comparative Literature 155.

Ms. Butzel/Offered every other year

160 FRENCH CULTURE SEEN THROUGH FILM: JEAN RENOIR

See listing under French 160.

Mr. Spingler/Offered every other year

163 HISTORY OF FRENCH CINEMA BEFORE WORLD WAR II

See listing under French 163.

Ms. Butzel/Offered every other year

188 THE CULTURE OF THE WEIMAR REPUBLIC IN LITERATURE, FILM AND THE ARTS/Lecture, Discussion

See listing under German 188.

Mr. Schatzberg/Offered every other year

191 STUDIES IN COMPARATIVE CULTURE: FRENCH VS. AMERICAN TELEVISION/Lecture, Discussion

See listing under Comparative Literature 191.

Ms. Butzel/Offered every other year

205 FEMINIST FILM THEORY AND CRITICISM/Seminar

See listing under Comparative Literature 205.

Ms. Butzel/Offered every other year

231 FILM THEORY/Lecture, Seminar

Examines major works of film theory, both classical and contemporary.

Readings are drawn from the work of Eisenstein, Bazin, Munsterburg, Arnheim, Burch, Benjamin, Adorno, Kracauer, Metz, Baudry, Heath, Mulvey, Wollen, Bordwell, and others. Prerequisite: 101 or permission of instructor.
Staff/Offered every other year

290 ADVANCED PROBLEMS IN SCREEN STUDIES/Seminar

Advanced studies of specific issues and approaches in the study of the screen arts. Topics vary each time the course is offered. Sample topics: Brechtian cinema; inventing the feature film; Eisenstein as theoretician, filmmaker, and historical figure; the idea of a national cinema; and non-Western film-making. Students produce a major term paper. Prerequisite: 101 or permission of instructor.

Staff/Offered every other year

2991 DIRECTED READINGS

Staff

2995 SPECIAL PROJECTS

Staff

2999 INTERNSHIP

Staff

Theater Arts

PROGRAM FACULTY

Raymond J. Munro, M.A.H., *program director* for directing, acting theory, independent narrative video

Neil R. Schroeder, Ph.D., *program director* for theater history and criticism, modern drama, Ibsen, speech

PART-TIME FACULTY

Gino Dilorio, M.F.A.: acting

Lauren J. Kurki, B.F.A.: scenic, lighting, and costume design, technical theater

Karin Trachtenberg, B.A.: movement and choreography

ADJUNCT FACULTY

Kenneth Hughes, Ph.D.

Hartmut Kaiser, Ph.D.

Catherine Quick Spingler, M.A.

Michael K. Spingler, Ph.D.

Virginia Vaughan, Ph.D.

UNDERGRADUATE PROGRAM

The theater arts program offers majors in two areas: theater history and criticism, or performance and production. Courses in theater arts—open to both majors and nonmajors—provide students with a sound liberal education and prepare them for graduate school or professional theater. Each year, the program presents professionally directed productions of classic and contemporary theater; although any Clark student may audition, students who take theater arts courses are required, as part of their course work, to participate in these productions. There are also opportunities for students to act and direct in classes, workshops, and student-sponsored productions, and to audition for Clark Center for Contemporary Performance productions.

The Clark Center for Contemporary Performance is a scholarly community of directors, composers, playwrights, choreographers, film/video makers, and critics devoted to the creation, development, and publication of contemporary works of art as well as to theoretical reflection about the works and their performance. The range of such work includes new scripts, original compositions or scores, translations, transformation of poetry into performance pieces, and explorations of the intersection of music, dance and video in the performance of existing works.

The center is designed to enhance the academic work of the University by organizing and focusing advanced learning through seminars and directed study in music, theater, film, design, literature, and aesthetics. Advanced students are encouraged to develop creative and theoretical projects within the center, so that they may take full advantage of the critical evaluation and supervision available and enrich their educational experience through contact with faculty, other students, and outside artists and performing groups.

THE THEATER ARTS MAJOR IN HISTORY AND CRITICISM

Requirements:

A total of nine courses are required for the major

1. Required courses:

- a. 110 *How Does a Play Work?*
- b. One course in acting (usually TA 112)
- c. One course in technical theater or design (usually TA 120)
- d. 151.1 *Theater in Western Civilization I*
- e. 151.2 *Theater in Western Civilization II*

2. At least four additional courses in theater history, dramatic literature, criticism, and aesthetics.

In addition, mastery of at least one foreign language is strongly recommended.

THE THEATER ARTS MAJOR IN PERFORMANCE AND PRODUCTION

Requirements:

A total of nine courses are required for the major.

1. Required courses:

- a. 112 *The Creative Actor*
- b. 113 *Actor as Thinker*
- c. 120 *Basic Technical Theater*
- d. 151.1 *Theater in Western Civilization I*
- e. 151.2 *Theater in Western Civilization II*

2. At least four courses from the following:

- 111 *Voice and Diction*
- 116 *Movement for the Theater I*
- 117 *Movement for the Theater II*
- 122 *Basic Technical Theater II*
- 123 *Design for Performance*
- 165 *French Dramatic Expression*
- 167 (Studio Arts) *Screen Production—Video*
- 213 *Studio* (may be repeated)
- 219 *Directing Seminar*

Note: 111, 116, and 213 are required for actors and directors. In addition, it is suggested that students who are seriously interested in acting or directing attempt to master at least one foreign language.

COURSES

110 HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING/Lecture, Discussion

Explores a small group of plays representing several styles, modes, and eras of Western drama, with special emphasis on formal analysis—study of the form and structure of each play. By means of class discussion, the oral interpretation of scenes from the plays, and the reading of critiques that illustrate various critical approaches to the drama, the student will be encouraged to arrive at a personal evaluation of the plays. Several short papers. This course satisfies the University's *verbal expression* requirement. No prerequisite.

Mr. Schroeder/Offered every year

111 VOICE AND DICTION/Studio, Tutorial

An intensified phonetic approach to articulation and voice production with some emphasis on speech for the stage and for public occasions. Each student is required to master the International Phonetic Alphabet to the point where it is an effective tool for ear training and articulation. Several laboratory sessions will be provided for the student to record and listen to his/her voice and for individual coaching by the instructor. No prerequisites. This course is not graded; it must be taken on a Pass/No Record basis.

Mr. Schroeder/Offered every other year

112 THE CREATIVE ACTOR/Studio

Through a series of workshops, the student becomes familiar with the basic tools necessary to the art of acting. The approach is based on the techniques of Stanislavski, Viola Spolin, Joseph Chaikin, Robert Cohen, and original exercises, including an introduction to basic voice and movement for the actor. No prerequisite. Limited to 25 students.

Mr. Munro, Mr. Dilorio/Offered every semester

113 ACTOR AS THINKER/Studio, Lecture, Discussion

A conceptual approach to acting theory and its application. Through a series of lectures and exercises, the student develops a greater understanding of script analysis, characterization, style, and the relationship of the actor to the audience. A basic course for all students who intend to continue in acting and directing, and a prerequisite for 213, *Studio*, and 219, *Directing Seminar*. Prerequisite: 112. Limited to 15 students.

Mr. Munro/Offered every semester

116 MOVEMENT FOR THE THEATER I/Studio

An exploration of mind/body integration issues, aimed to increase students' understanding and skills of physical freedom and expression. Tools and techniques for developing basic skills of awareness, observation, concentration, and release of habitual tension will be practiced and discussed. Physical approaches to acting will be explored as well as elements of dance and movement composition.

Ms. Trachtenberg/Offered every year

117 MOVEMENT FOR THE THEATER II/Studio

The ideas and techniques of *Movement for the Theater I* will be addressed and explored in greater depth. Increased emphasis will be placed on the creative process, and students will develop movement compositions and scene work with a physical approach. Issues of responsibility and performance will also be addressed. Prerequisite: 116 or permission of the instructor.

Ms. Trachtenberg/Offered periodically

119 PUBLIC SPEAKING/Studio

Students are required to make as many speeches as time permits, so that they may master the fundamentals of public speaking, including the most common situations: presentation of information and persuasive speaking. No prerequisite. Mr. Schroeder/Offered every year

120 BASIC TECHNICAL THEATER/Studio, Lecture

Introduction to theatrical production. Techniques and organization involved in providing the stage with scenery, lights, and properties. Drafting of these elements is introduced, as well as scaled ground plans and other stage data. Makeup, lighting, and set construction in applied lab/crew assignments. Ms. Kurki/Offered every year

122 TECHNICAL THEATER II/Studio, Lecture

Continuation of 120. Beginning elements of design and styles of production. Basics of perspective and methods of pictorial representation. Continued focus on specific elements of scenery, lighting and properties in relation to theater facilities, materials, and equipment. Lab/crew assignments. Ms. Kurki/Offered every year

123 DESIGN FOR PERFORMANCE/Studio, Tutorial

Theory of design/function of stage designer relating to production and to director. Historical research in styles of ornament and production. Student may choose to emphasize scenery, lighting, properties or costume/makeup design. Painting and rendering introduced. Lab/crew assignments. May be taken for credit more than once. Prerequisite: 120 and 122, or permission of the instructor.

Ms. Kurki/Offered every year

125 SCENERY AND COSTUME PROJECTS/Studio, Tutorial

Intermediate-level projects in design research and three-dimensional execution for theater production. Prerequisite: permission of the instructor. Ms. Kurki/Offered every year

126 THE PHYSICAL THEATER/Studio, Lecture, Discussion

Study of theater architecture, alternative performance spaces, and contemporary installation projects/performance art in relation to their genus as scene design. Exploration of fashion as costume is also included. Ms. Kurki/Offered every other year

127 ENVIRONMENTAL STUDIO/Studio, Tutorial

Advanced, individual study of environment and structure as it relates to performance and/or gallery/alternative space installation. Open to nonmajors. Ms. Kurki/Offered periodically

151.1 THEATER IN WESTERN CIVILIZATION I/Lecture, Discussion

A survey of theater and drama from ancient Greece to the Renaissance. The course considers the form and substance of theatrical presentations and the study of several representative plays from each important era and national theater. No prerequisite. This course satisfies the University's *aesthetic perspective* requirement.

Mr. Schroeder/Offered every other year

151.2 THEATER IN WESTERN CIVILIZATION II/Lecture, Discussion

A continuation of 151.1, this is a survey of theater and drama from the

seventeenth century to the present. No prerequisite. This course satisfies the University's *aesthetic perspective* requirement.

Mr. Schroeder/Offered every other year

154.1 MODERN DRAMA I/Lecture, Discussion

A survey of Western drama and theater from Ibsen to World War II. The course traces the development of modern realistic drama and early experimental reactions to realism. No prerequisite. At least three papers or exams.

Mr. Schroeder/Offered every other year

154.2 MODERN DRAMA II/Lecture, Discussion

A survey of Western drama and theater from World War II to the present, which examines several of the major postwar movements and the radical dramatic forms they have produced. This course satisfies the University's *verbal expression* requirement. No prerequisite. At least three papers or exams.

Mr. Schroeder/Offered every other year

155 ENGLISH DRAMA I/Lecture

Refer to listing under English 122.

Ms. Vaughan/Offered every other year

156 ENGLISH DRAMA II/Lecture, Discussion

Refer to listing under English 123.

Mr. Sultan/Offered every other year

164 THE AMERICAN MUSICAL THEATER/Lecture, Discussion

While some attention is paid to the history of the musical theater in the United States, primary emphasis in this course is on the study and analysis of several important contemporary musicals, and on the form and structure of books, lyrics, and music. No prerequisite. At least three papers, exams, or creative projects.

Mr. Schroeder/Offered periodically

165 FRENCH DRAMATIC EXPRESSION/Lecture, Discussion

Refer to listing under Foreign Languages and Literatures.

Mr. Spingler/Offered every other year

185 TENNESSEE WILLIAMS/Lecture, Discussion

An intensive study of the playwright's work, concentrating on his development as an artist. Students evaluate his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected.

Mr. Schroeder/Offered periodically

199 THE WRITER'S CRAFT/Seminar

This course will utilize a series of exercises and discussions to explore different elements of the craft of dramatic writing, offering the student the opportunity to practice the various aspects of scene writing and to discover the technical elements that comprise a well-wrought scene. Issues of Person, Location, Action and Voice will be addressed critically. As the students' scenes are discussed and examined, ways to reconstruct and refocus the scene will be explored.

Mr. Brooks/Offered every year

213 STUDIO

A scene-study course applying the methods, theories, and approaches discussed

in *Actor as Thinker* to working on stage, film, and video. Students are required to present several scenes of different periods and styles for discussion, critical written review, and further development by classmates and director. The content varies each time the course is taught. May be taken for credit more than once. Lab and crew hours are required. Prerequisite: 113.

Mr. Munro, Mr. Dilorio/Offered every semester

219 DIRECTING SEMINAR

Introduces the principles of directing for the stage through theory, practical application, and discussion. Students study problems of interpretation and concept; the role of the director as creative and interpretive artist; and relationship to designer, stage manager, and actors. Additional lab time is required. Prerequisites: 113 and permission of instructor.

Mr. Munro/Offered every year

2991 DIRECTED READINGS

Staff

2995 SPECIAL PROJECTS

Staff

2999 INTERNSHIP

Staff

With permission of the program director, the following courses offered by other departments may be taken for theater history and criticism credit:

English 120 INTRODUCTION TO SHAKESPEARE

Refer to course listing under English.

Ms. Vaughan, Ms. Gertz/Offered every year

English 253 ADVANCED STUDIES IN SHAKESPEARE/Seminar

Refer to course listing under English.

Ms. Vaughan/Offered every year

French 170 THE MODERN FRENCH THEATER: EXPERIMENTS OF THE AVANT-GARDE/Lecture, Discussion

Refer to course listing under Foreign Languages and Literatures.

Mr. Spingler/Offered every other year

German 166 GERMAN DRAMA FROM LESSING TO BRECHT/Lecture, Discussion

Refer to course listing under Foreign Languages and Literatures.

Mr. Kaiser/Offered every other year

Women's Studies

PROGRAM FACULTY

Rachel Joffe Falmagne, Ph.D., Psychology, *program director*: deductive reasoning, logico-semantic development, women and psychology

Lois E. Brynes, M.A., COPACE Women's Studies courses coordinator and faculty member: history of consciousness, interdisciplinary studies, literature, women's studies

Marcia Butzel, Ph.D., Foreign Languages and Literatures: film and cultural studies

Maria Acosta Cruz, Ph.D., Foreign Languages and Literatures: Latin American literature and comparative literature

Judith DeCew, Ph.D., Philosophy: ethics, philosophy of law, logic

Carol D'Lugo, Ph.D., Foreign Languages: Latin American literature, Spanish culture, Mexican women writers

Sarah Deutsch, Ph.D., History: American social history and American women

Cynthia H. Enloe, Ph.D., Government: women and politics, militarization, Southeast Asian and British politics

Patricia M. Ewick, Ph.D., Sociology: research methods; gender, law, criminology

SunHee Kim Gertz, Ph.D., English: medieval literature, women in medieval Europe

Bonnie Grad, Ph.D., Visual and Performing Arts: nineteenth- and twentieth-century American and European painting, history of landscape art, women artists

Beverly Grier, Ph.D., Government: comparative politics, African politics, U.S. black politics

Susan E. Hanson, Ph.D., Geography: urban-social geography, transportation, occupational segregation

Serena S. Hilsinger, Ph.D., English: modernist literature, women writers

Fern Johnson, Ph.D., English: language, communication, and culture, with special emphasis on the study of gender and race.

Dorothy Kaufmann, Ph.D., Foreign Languages and Literatures: contemporary French feminism, women writers

Sharon Perlman Krefetz, Ph.D., Government: urban politics, suburban politics, women and politics

Dianne Rocheleau, Ph.D., Geography: gender, environment, development

Paul S. Ropp, Ph.D., History: Chinese social and intellectual history, women in China

Shelly Tenenbaum, Ph.D., Sociology: Judaic studies, race/ethnicity, social stratification

Barbara Thomas-Slayter, Ph.D., International Development: community organization, women and public policy, rural development

Virginia Vaughan, Ph.D., English: Shakespeare, Renaissance drama, Chaucer, medieval literature

NOTE: In addition to the above faculty, who teach regularly in the program, other members of the faculty from a number of departments are active participants in the Women's Studies Program and offer courses that include a significant women's studies component or have research interests in this area.

PROGRAM

Women's studies is an interdisciplinary field of study and scholarship which stresses the interconnectedness of phenomena and questions at various levels of analysis. The characterization of women and men in literature, the cultural

images of women, the societal structures in which we function, and the qualities of individual women's experiences form an interrelated and inseparable cluster of phenomena for study. Courses that speak to the social and political roles and cultural formulations of women's and men's positions in society are offered in a number of departments.

Women's studies takes a situated approach to questions and problems. That is, people, historical constructs, literature, art, etc. are seen as situated within their social context, and gender categories are fundamental categories with which to describe both the context and individual experience. Women's studies stresses the diversity of women's experiences, and a number of courses examine how ethnicity, race, and class shape women's experiences as well as their social context.

The program offers a concentration in women's studies, which may be taken along with any departmental major. "Women's Studies Concentration" will appear on the student's graduating transcript along with her/his major. In addition, interested students may design a major in women's studies via the University's self-designed major mechanism.

The following sequence of courses is required for a concentration:

- A major in an established department or a self-designed major
- *Introduction to Women's Studies*
- Four additional courses listed as part of the Women's Studies Program. (It is strongly recommended that these include a variety of disciplinary approaches.)
- An internship, special project, or advanced research seminar in women's studies.

At the master's level, one area of concentration is *women and development*.

The following is a list of Clark's women's studies course offerings; more information can be obtained from participating faculty or from the Women's Studies Office, Jefferson Academic Center 209, (508) 793-7358.

From its inception, the Women's Studies Program has been a joint program with the College of Professional and Continuing Education (COPACE). In addition to courses offered by the undergraduate college and listed below, women's studies concentrators also have the opportunity to enroll in selected courses offered by COPACE. COPACE provides a diverse list of courses that is revised each year and is enriched by collaboratives with various cultural institutions in Worcester. Contact the registrar in COPACE directly (508-793-7217) for current academic year and summer offerings.

COURSES

110 INTRODUCTION TO WOMEN'S STUDIES

Refer to course description under Sociology 110.
Staff/Offered every year

037 GENDER, SPACE AND ENVIRONMENT

Refer to course description under Geography 037.
Ms. Rocheleau/Offered every year

133 FICTION BY WOMEN WRITERS, 1688-1899

Refer to course description under English 133.
Ms. Hilsinger/Offered every other year

134 MODERN FICTION BY WOMEN WRITERS

Refer to course description under English 134.
Ms. Hilsinger/Offered every other year

136 WOMEN IN HISPANIC LITERATURE

Refer to course description under Spanish 136.

Ms. O'Connell, Staff/Offered every other year

150 MEDIEVAL LITERATURE

Refer to course description under English 150.

Ms. Gertz/Offered every year

175 WOMEN AND POLITICS

Refer to course description under Government 175.

Ms. Krefetz/Offered every year

185 WOMEN'S WRITING IN TWENTIETH-CENTURY FRANCE

Refer to course description under French 185.

Ms. Kaufmann/Offered every other year

191 LANGUAGE DIVERSITY IN THE UNITED STATES

Refer to course description under English 191.

Ms. Johnson/Offered every year

203 AMERICAN JEWISH LIFE

Refer to course description under Sociology 203.

Ms. Tenenbaum/Offered every year

205 FEMINIST FILM THEORY AND CRITICISM

Refer to course description under Comparative Literature 205.

Ms. Butzel/Offered every other year

208 COMPARATIVE POLITICS OF WOMEN

Refer to course description under Government 208.

Ms. Enloe, Ms. Grier/Offered every year

212 WOMEN AND SOCIAL CHANGE

Refer to course description under International Development 212.

Ms. Thomas-Slayter/Offered every year

213 GENDER AND THE CITY IN THE U.S.

Refer to course description under History 213/313.

Ms. Deutsch/Offered periodically

219 HISTORY OF AMERICAN WOMEN

Refer to course description under History 219.

Ms. Deutsch/Offered every year

224 HISTORY OF AFRO-AMERICAN WOMEN/Seminar

Refer to course description under Government 225/History 224.

Ms. Grier/Offered every other year

225 SOCIOLOGY OF SEX ROLES

Refer to course description under Sociology 225.

Ms. Ewick and staff/Offered every other year (or more frequently)

228 COMPARATIVE POLITICS OF RACE, ETHNICITY AND GENDER

Refer to course description under Government 228.

Ms. Enloe/Offered every other year

244 GENDER, WORK, AND SPACE

Refer to course description under Geography 244.
Ms. Hanson/Offered every other year

247 WOMEN IN SOCIETY/Seminar

Refer to course description under Psychology 249.
Ms. Joffe Falmagne/Offered every other year

248 WOMEN AND ART/Seminar

Refer to course description under Art History 248.
Ms. Grad/Offered every other year

249 SIGNS AND CROSSROADS: SEMIOTIC THEORY AND PRACTICE

Refer to course description under English 249.
Ms. Gertz/Offered periodically

250 MEDIEVAL LITERATURE

Refer to course description under English 150.
Ms. Gertz/Offered every year

255 THE FAMILY

Refer to course description under Sociology 255.
Ms. Ewick/Offered every year

256 STUDIES IN THE RENAISSANCE

Refer to course description under English 255.
Ms. Vaughan/Offered periodically

261 WOMEN AND MILITARIZATION IN A COMPARATIVE POLITICS PERSPECTIVE

Refer to course description under Government 261.
Ms. Enloe/Offered every other year

275 WORKS OF VIRGINIA WOOLF

Refer to course description under English 275.
Ms. Hilsinger/Offered every other year

277 GENDER, RESOURCES, AND DEVELOPMENT/Seminar

Refer to course description under Geography 277.
Ms. Rocheleau/Offered every other year

289 CHINESE WOMEN IN LITERATURE AND SOCIETY

Refer to course description under History 282.
Mr. Ropp/Offered every other year

Faculty

Members of the faculty and officers (appointed for the academic year as of July 1, 1990) are listed alphabetically with their titles, degrees, and years at Clark.

PRESIDENT

RICHARD P. TRAINA, Ph.D., President of the University. B.S., University of Santa Clara, 1958; M.A., University of California, Berkeley, 1960; Ph.D., 1964. (1984-)

EMERITI

HARRY C. ALLEN JR., Ph.D., Professor of Chemistry, Emeritus. B.S., Northern University, 1948; Sc.M., Brown University, 1949; Ph.D., University of Washington, 1951. (1969-86)

KARL O.E. ANDERSON, Ph.D., Professor of English, Emeritus. A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945-76)

MORTIMER H. APPLEY, Ph.D., President, Emeritus; Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950; D.Sc., York University, 1975; L.H.D., Northeastern University, 1983; Litt. D., American International College, 1984; LL.D., Clark University, 1984. (1974-83)

KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus. (1950-1974)

RAYMOND E. BARBERA, Ph.D., Professor of Romance Languages, Emeritus. A.B., Brooklyn College, 1947; A.M., University of Arizona, 1948; Doctor en Letras, Universidad Nacional de Mexico, 1949; Ph.D., University of Wisconsin, 1958. (1953-)

GEORGE A. BILLIAS, Ph. D., Professor of History, Emeritus. A.B., Bates College, 1948; M.A., Columbia University, 1949; Ph. D., 1958. (1962-89)

ROBERT F. CAMPBELL, Ph.D., Professor of American History, Emeritus. A.B., Yale University, 1939; A.M., Columbia University, 1940; Ph.D., 1947. (1946-1957; 1960-)

WILLIAM H. CARTER JR., Ph.D., Professor of English, Emeritus. A.B., Middlebury College, 1936; A.M., Harvard University, 1938; Ph.D., 1951. (1949-1984)

SAMUEL P. COWARDIN III, Ph.D., Associate Professor of Art History, Emeritus. A.B., Harvard University, 1943; A.M., 1948; Ph.D., 1963. (1949-86)

JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957-1975)

TAMARA DEMBO, Ph.D., Associate Professor of Psychology, Emeritus. (1953-1972)

WESLEY M. FULLER, M.Mus., George N. and Selma U. Jeppson Professor of Music, Emeritus. B.Mus., Oberlin Conservatory, 1953; M.Mus, Boston University, 1958. (1963-90)

PETER P. GIL, Ph.D., Professor of Management, Emeritus. A.B., Harvard University, 1949; M.B.A., Harvard Business School, 1951; Ph.D., University of Geneva, 1963. (1981-1988)

GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942-1971)

SHERMAN S. HAYDEN, Ph.D., Professor of International Relations, Emeritus. (1946-1973)

HELEN J. KENNEY, Ed.D., Professor of Education, Emeritus. A.B., Emmanuel College, 1944; M.Ed., Boston College, 1953; Ed.D, Boston University, 1959. (1968-90)

J. FANNIN KING, M.A., Associate Professor of Romance Languages, Emeritus. Adviser to International Students. A.B., Pomona College, 1936; A.M., Harvard University, 1937. (1946-1985)

- DUANE S. KNOS, Ph.D., Professor of Geography, Emeritus. B.A., Upper Iowa College, 1947; M.A., University of Iowa, 1953; Ph.D., 1956. (1970-1987)
- RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus. (1946-1968)
- HOWARD NICHOLSON, Ph.D., Professor of Economics, Emeritus. A.B., Oberlin College, 1942; M.A., Harvard University, 1948; Ph.D., 1953. (1958-86)
- J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus. (1944-1976)
- HARRY E. SCHWARZ, B.C.E., P.E., Professor of Environment, Technology and Society, Emeritus. B.C.E., George Washington University, 1954. (1973-1987)
- THEODORE H. VON LAUE, Ph.D., Jacob and Frances Hiatt Professor of History, Emeritus. B.A., Princeton University, 1939; Ph.D., 1944. (1970-1983)
- SEYMOUR WAPNER, Ph.D., Executive Committee, Heinz Werner Institute; G. Stanley Hall Professor of Genetic Psychology, Emeritus. A.B., New York University, 1939; A.M., University of Michigan, 1940; Ph.D., 1943. (1948-88)
- MORTON WIENER, Ph.D., Professor of Psychology, Emeritus. B.S., City College of New York, 1949; M.S.Ed., 1950; Ph.D., University of Rochester, 1953. (1957-90)

FULL-TIME INSTRUCTIONAL FACULTY

Tenured, Tenure-track, and Long-term Visiting Appointments
(See individual departments for other appointments)

- SALMAN ABDULALI, Ph.D., Visiting Assistant Professor of Mathematics and Computer Science. M.Sc., Biria Institute of Technology and Science (India), 1980; Ph.D., State University of New York, Stony Brook, 1985. (1987-)
- MARIA I. ACOSTA CRUZ, Ph.D., Assistant Professor of Spanish. B.A., University of Puerto Rico, Mayaguez, 1978; M.A., State University of New York at Binghamton, 1980; Ph.D., 1984 (1986-)
- VERNON AHMADJIAN, Ph.D., Professor of Biology. A.B., Clark University, 1952; A.M., 1956; Ph.D., Harvard University, 1960. (1959-1968; 1969-)
- ROY S. ANDERSEN, Ph.D., Professor of Physics. A.B., Clark University, 1943; A.M., Dartmouth College, 1948; Ph.D., Duke University, 1951. (1960-)
- ROYCE ANDERSON, Ph.D., Assistant Professor of Management. B.A., Drew University, 1970; M.Div., 1974; M.B.A., Rutgers University, 1981; M.Phil., City University of New York, 1988; Ph.D., Baruch College, CUNY, 1989. (1990-)
- DAVID P. ANGEL, Ph.D., Assistant Professor of Geography. B.A., Cambridge University (England), 1980; M.A., University of California, Los Angeles, 1984; Ph.D., 1988. (1987-)
- MICHIKO Y. AOKI, Ph.D., Assistant Professor of Japanese. A.M., Syracuse University, 1963; Ph.D., Columbia University, 1970. (1990-)
- MARGARETE ARNDT, M.B.A., Assistant Professor of Management.. M.B.A., Simmons College, 1982. (1990-)
- SANDRA T. AZAR, Ph.D., Assistant Professor of Psychology. B.A., Wheaton College, 1974; M.A., University of Rochester, 1982; Ph.D., 1984. (1986-)
- ROBERT W. BAKER, Ph.D., Professor of Psychology; Director, Psychological Services Center. A.B., Hobart College, 1947; Ph.D., Clark University, 1953. (1954-)
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